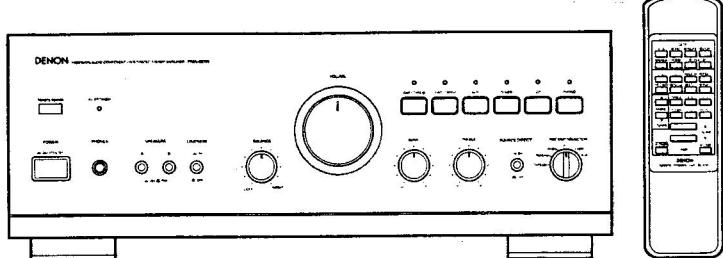


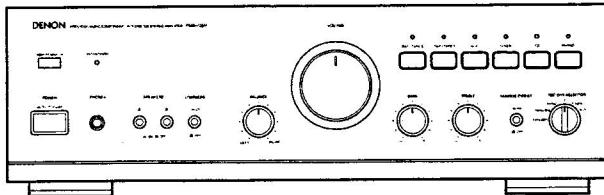
# DENON

Hi-Fi Integrated Stereo Amplifier

## SERVICE MANUAL MODEL PMA-925R/725R INTEGRATED STEREO AMPLIFIER



PMA-925R

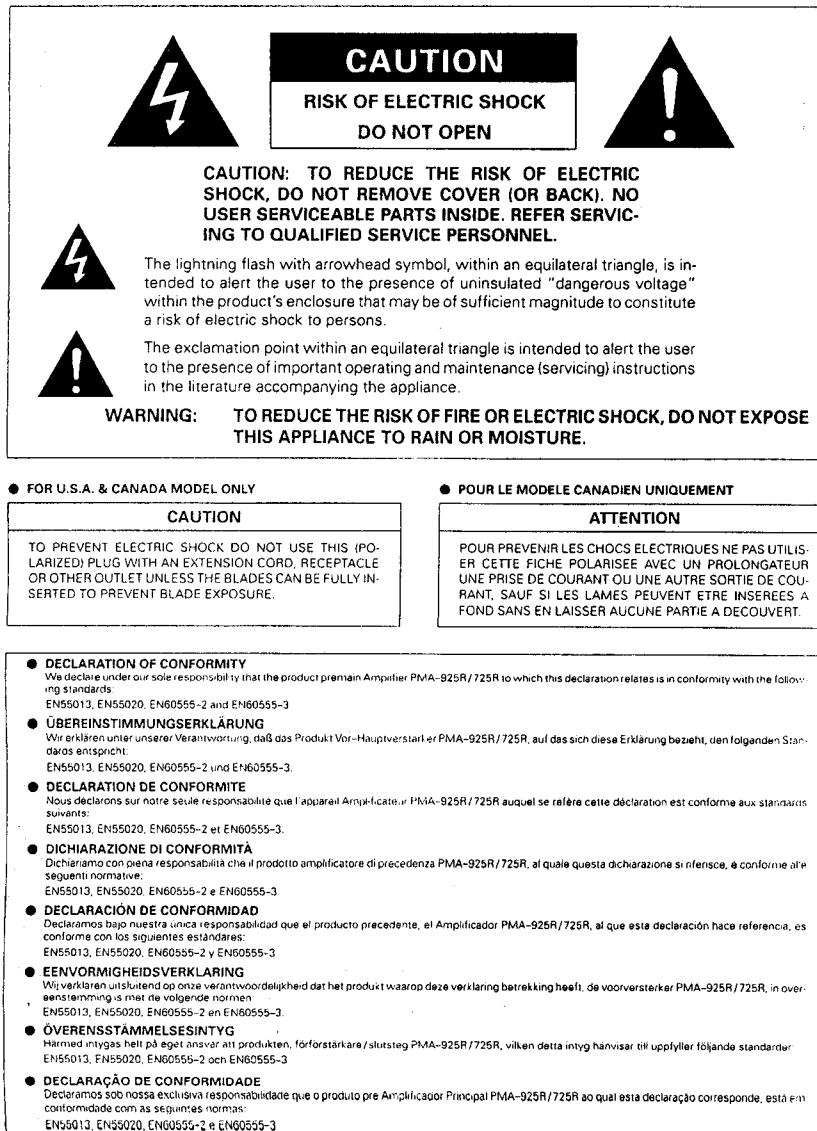


PMA-725R

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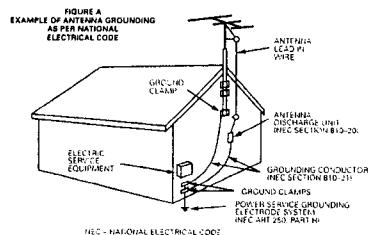
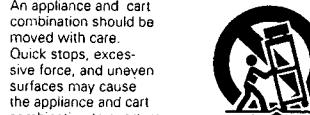
**NIPPON COLUMBIA CO., LTD.**



## ● FOR U.S.A. MODEL ONLY

## SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.
12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
15. Power Lines – An outdoor antenna should be located away from power lines.
16. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
17. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
  - a. The power-supply cord or the plug has been damaged; or
  - b. Objects have fallen, or liquid has been spilled into the appliance; or
  - c. The appliance has been exposed to rain; or
  - d. The appliance does not appear to operate normally or exhibits a marked change in performance; or
  - e. The appliance has been dropped, or the enclosure damaged.
20. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.



**NOTE:**

- Always keep the POWER switch on the main unit turned on
- Turn the power on and off from the remote control unit
- Unplug the power cord when you do not plan to use the unit for a long period of time.

**CAUTION:**

- If only the MUTE/STANDBY LED is lit, this means that the power is turned off from the remote control unit. Turn the power on from the remote control unit.

**HINWEIS:**

- Abschalten Sie den Netzschalter (POWER) am Hauptgerät stets eingeschaltet.
- Schalten Sie den Strom mit dem Fernbedienungsgerät ein- und aus.
- Trennen Sie das Netzkabel vom Netz ab, wenn Sie beachten, dass Gerät über einen längeren Zeitraum hinweg nicht zu benutzen.

**VORSICHT:**

- Wenn nur das Stummenschalt-/Bereitschafts-LED (MUTE/STANDBY) leuchtet, so bedeutet dies, daß der Strom vom Fernbedienungsgerät aus ausgeschaltet worden ist. Schalten Sie den Strom vom Fernbedienungsgerät aus ein.

**REMARQUE:**

- S'assurer que le commutateur d'alimentation (POWER) sur l'unité principale soit toujours dans la position active.
- Allumer et éteindre l'appareil avec la télécommande.
- Débrancher le cordon d'alimentation lorsque l'appareil ne sera pas utilisé pendant une longue période.

**ATTENTION:**

- Si se iluminan (LED) de sordina/velilla (MUTE/STANDBY) est ilumina, ciò significa que l'appareil est mis hors circuit par la télécommande. Allumez l'appareil avec la télécommande.

**NOTA:**

- Tenere sempre l'interruttore della corrente (POWER) dell'unità principale nella posizione di attivazione.
- Accendete e spegnete la corrente usando il telecomando.
- Scolateggiate il filo di alimentazione quando avete intenzione di non usare l'apparecchio per un lungo periodo.

**AVVERTENZE:**

- Se sono illuminati solo i LED di attenuazione/attesa (MUTE/STANDBY), questo significa che la corrente è stata spenta con il telecomando. Riaccende la corrente usando il telecomando.

**PRECAUTIONS FOR INSTALLATION**

Leave at least 10cm of space between this unit and any other component placed above.

**SICHERHEITSMASSNAHMEN BEIM EINBAU**

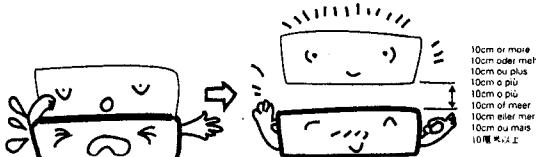
Lassen einen Mindestabstand von 10 cm zwischen diesem Gerät und der anderen Komponente, die darüber gestellt wird.

**PRÉCAUTIONS D'INSTALLATION**

Prevoir un espace d'au moins 10cm entre l'unité et tout autre appareil se trouvant au-dessus.

**PRECAUZIONI PER L'INSTALLAZIONE**

Lasciate uno spazio libero di almeno 10 cm fra quest'unità e qualsiasi altro componente che è collocato sopra la stessa.

**安装注意**

本機須與其上方擺置的其它音響設備相隔至少10厘米。

**NOTA:**

- Mantenga siempre activado el interruptor de alimentación (POWER) en la unidad principal.
- Encienda y apague el equipo desde la unidad de control remoto.
- Cuando la unidad vaya a estar fuera de uso por un período prolongado de tiempo, desconecte el cable de alimentación.

**PRECAUCIÓN:**

- Cuando solo el indicador LED de silenciamiento/modo de espera (MUTE/STANDBY) está encendido, significará que la alimentación a la unidad ha sido desconectada desde la unidad de control remoto. Conecte la alimentación desde la unidad de control remoto.

**OPMERKING:**

- Zorg er altijd voor dat de stroomschakelaar (POWER) van het hoofdstel in de ingeschakelde stand staat.
- Schakel de stroom in en uit m.b.v. de afstandsbediening.
- Trek het netsnoer uit wanneer u denkt het toestel gedurende een lange periode niet te gebruiken.

**WAARSCHUWING:**

- Indien enkel de dempings-(MUTE)/STANDBY LED brandt, betekent dit dat de spanning die afstandsbiediening is uitgeschakeld. Schakel de spanning in met afstandsbiediening.

**OBSERVERA:**

- Låt alltid strömbrytaren (POWER) på huvudenheteren vara påslagen.
- Sätt till/för strömmen med hjälp av fjärrkontrollen.
- Koppla loss nätkabeln om apparaten inte ska användas under lång tid.

**VARNING:**

- Om endast MUTE/STANDBY-lampan lyser betyder det att strömmen har stängts av via fjärrkontrollen. Strömmen måste då sättas på via fjärrkontrollen igen.

**NOTA:**

- Mantenha o interruptor da Corrente (POWER) na unidade principal sempre ligado.
- Ligue e desligue a corrente a partir da unidade de controlo remoto.
- Desconecte o fio de força quando intentar não utilizar a unidade por longo tempo.

**CAUTELA:**

- Se apenas se iluminam LED de sordina/espuma (MUTE/STANDBY), isso significa que a força se desligou a partir do controle remoto. Ligue a força a partir do controle remoto.

**註 :**

- 主機上的POWER (電源) 槍掣一直保持接通。
- 由遙控器操縱電源之開和關。
- 本機打算長時間不用時應將電源接線拔下。

**注意 :**

- 若只有MUTE/STANDBY LED指示燈亮，就表示電源已由遙控器關閉。應從遙控器開啟電源。

**PRECAUCIONES PARA LA INSTALACION**

Dejar por lo menos 10cm de espacio entre esta unidad y cualquier otro componente situado sobre ella.

**VOORZORGSMAACTREGELLEN**

Bij plaatsing dient u een ruimte van minstens 10 cm open te laten tussen dit toestel en een ander daarop geplaatst komponent.

**FÖRSIKTIGHETSMÄTTGÄRDAR VID INSTALLATIONEN**

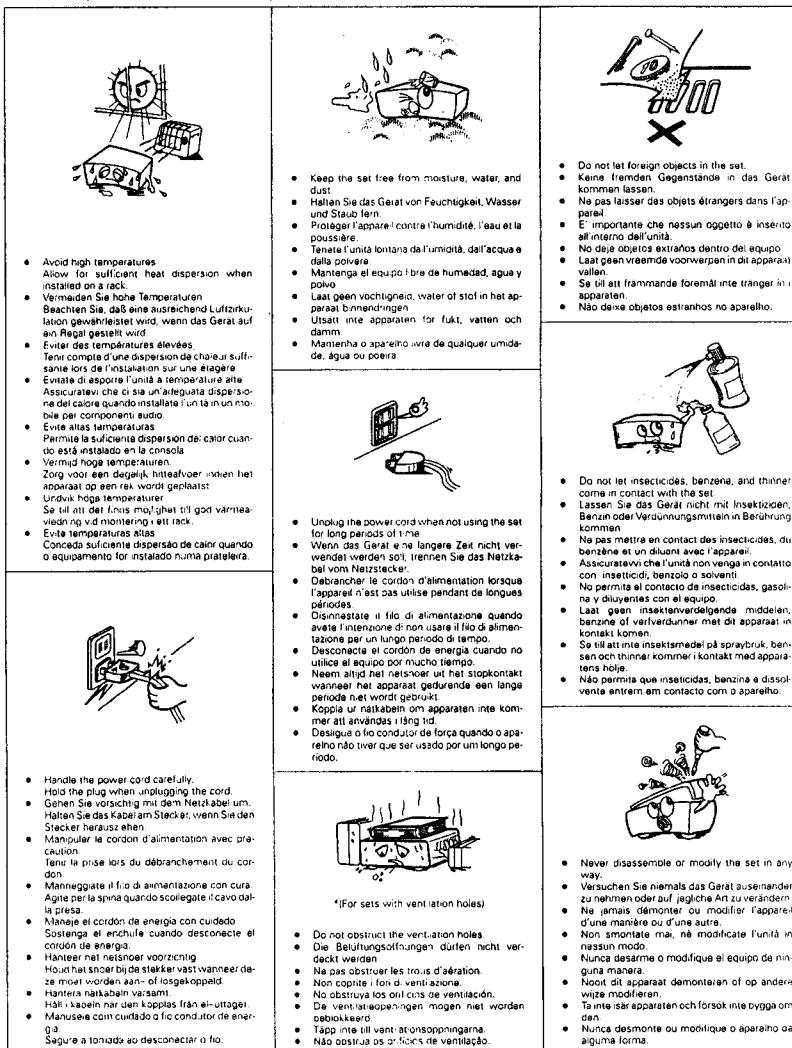
Se till att det finns minst 10 cm mellanrum mellan apparaten och en ev. annan apparat som är ställd övera.

**CUIDADOS NA INSTALAÇÃO**

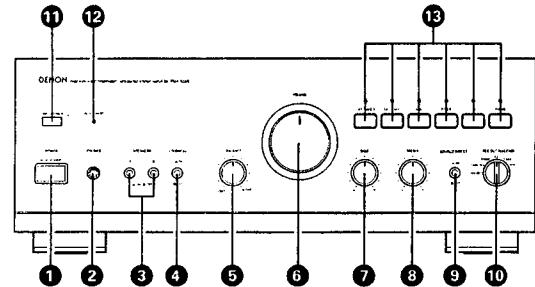
Deixe um espaço de pelo menos 10 cm entre esta unidade e qualquer outro componente colocado acima.

**安装注意**

本機須與其上方擺置的其它音響設備相隔至少10厘米。

**NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION  
NOTE SULL'USO / NOTAS SOBRE EL USO / ALVORENS TE GEBRUIKEN / OBSERVERA  
OBSERVAÇÕES QUANTO AO USO**

**FRONT PANEL**  
**FRONTPLATTE**  
**PANNEAU AVANT**  
**PANNELLO ANTERIORE**  
**正面**



**REAR PANEL**  
**RÜCKWAND**  
**PANNEAU ARRIÈRE**  
**PANNELLO POSTERIORE**  
**背面**

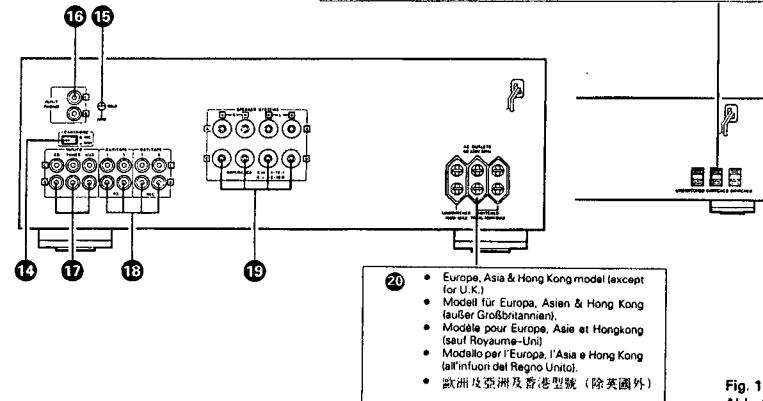


Fig. 1  
 Abb. 1  
 ■ 1

① CARTRIDGE	⑩ GND	⑯ PHONO	⑭ CD, TUNER, AUX	⑮ DAT/TAPE-1, DAT/TAPE-2 • TAPE PB • TAPE REC	⑯ SPEAKERS
Cartridge Selector Switch	GND	Phono Input Terminals (Phono)	Input Terminals (CD, TUNER, AUX)	Playback and Recording Terminals • Playback Terminals • Recording Terminals	Speaker Terminals
Tonabnehmer- Wahlschalter	GND	Schallplattenspieler- Eingangsbuchsen (Phono)	Eingangsbuchsen (CD, TUNER, AUX)	Tonband-Ein/Ausgänge • Wiedergabe • Aufnahme	Lautsprecher- Hömmen
Spieldose de cassette	GND	Bornes d'entrée (phono)	Bornes d'entrée (CD, TUNER, AUX)	Bornes de lecture et d'enregistrement • Bornes de lecture • Bornes d'enregistrement	Bornes de haut- parleurs
Interfattore di Sincronizzazione	GND	Terminali di ingresso Phono	Terminali di ingresso (CD, TUNER, AUX)	Terminali di riproduzione registrazione • Terminali di riproduzione • Terminali di registrazione	Terminali degli altoparlanti
输入端子	地线	唱盘输入端子	CD、调谐器、辅助输入端子	播放与录音端子	扬声器端子

**CONNECTIONS**  
**ANSCHLÜSSE**  
**CONNEXIONS**  
**CONNESSIONI**  
**接続方法**

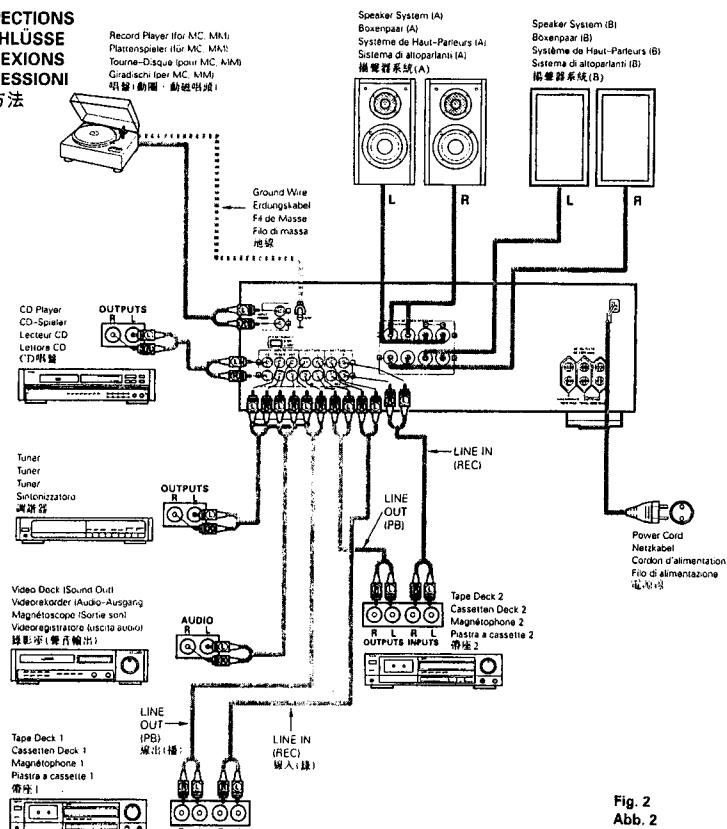


Fig. 2  
 Abb. 2  
 ■ 2

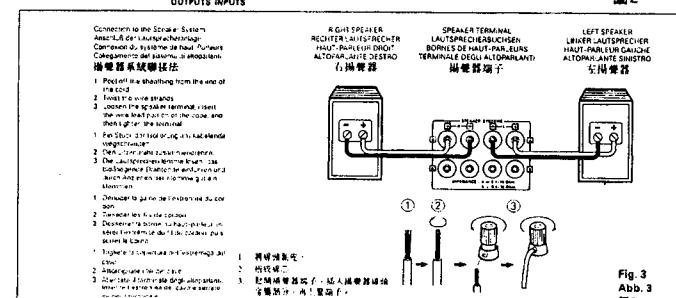


Fig. 3  
 Abb. 3  
 ■ 3

## DESIGNATIONS AND FUNCTIONS OF PANEL CONTROLS

### ① POWER (Power Switch)

When the power switch is turned ON (▲), the MUTE/STANDBY LED (1) lights. When the power switch is turned ON, power is supplied to the unit. It takes a few seconds after the power is turned on for the unit to warm up. This is due to the built-in muting circuit that eliminates noise during the on/off operation.

### ② PHONES (Headphone Jack)

This jack is used to plug in the headphones.

### ③ SPEAKERS (Speaker Selection Switch)

The PMA-925R/725R can be connected to two speaker systems: speaker system A and speaker system B. When A is pressed, the speaker system connected to speaker output terminals A operates. When B is pressed, the speaker system connected to speaker output terminals B operates. When A and B are pressed on together, both speaker systems operate simultaneously. When the A and B switches are both off (in the out position), there is no output from the speaker terminals. This setting is used to listen to playback through the headphones.

### ④ LOUDNESS (Loudness Switch)

When the volume is low, it is difficult for the human ear to clearly distinguish notes in the low and high frequency ranges. The loudness switch allows a simple "one-touch" correction of this difficulty. Press the loudness switch ON (▲) when listening to music at a low volume. The low notes and high notes will be corrected to produce a natural sound.

### ⑤ BALANCE (Balance Control)

This knob is used to adjust the balance between the left and right channels. When it is set to the center position, the amplitude of the amplifier is equal on both sides. If there is a difference in the left and right channel output voltages for a cartridge, move the knob to the left and the right to adjust it. If the volume on the right side is too low, turn the knob to the right (▲). If the volume on the left side is too low, turn the knob to the left (▼). This will achieve an even balance on the left and right sides.

### ⑥ VOLUME (Volume Control)

This knob controls the overall volume level. Turn the knob to the right (▲) to raise the volume and to the left (▼) to lower it.

### ⑦ BASS (Bass Control)

This knob is used to control the bass quality of the sound. When the knob is set at the center position, the frequency characteristics are flattened in the range below 1000 Hz. The bass is emphasized as the knob is moved off center to the right (▲), and reduced as it is moved to the left (▼). When volume control (6) is set to the right of the center position, the effect of the other controls is reduced.

### ⑧ TREBLE (Treble Control)

This knob is used to control the treble quality of the sound. When the knob is set at the center position, the frequency characteristics are flattened in the range above 1000 Hz. The treble is emphasized as the knob is moved off center to the right (▲), and reduced as it is moved to the left (▼). When volume control (6) is set to the right of the center position, the effect of the other controls is reduced.

### ⑨ SOURCE DIRECT (Source Direct Switch)

The controls (BALANCE, LOUDNESS, and TONE) can be used when this switch is in the OFF (▲) position. When set to the ON (▼) position, the above controls are bypassed and the signals are input directly to the volume control circuit, providing high quality sound.

### ⑩ REC OUT SELECTOR (Rec Out Select Switch)

Use this switch to select the recording component.

- PHONO: Used to recording from the turntable.
- CD: Used to recording from the CD player.
- TUNER: Used to recording from the tuner.
- AUX: Used to recording component that connected to the AUX terminal.
- DAT/TAPE-1 ▶ 2: Used to recording from the tape deck connected to the DAT/TAPE-1 jacks.
- DAT/TAPE-2 ▶ 1: Used to recording from the tape deck connected to the DAT/TAPE-2 jacks.

### ⑪ REMOTE SENSOR (Remote Control Sensor)

This sensor receives the infra-red light transmitted from the wireless remote control unit. For remote control, point the wireless remote control unit towards the sensor.

### ⑫ MUTE / STANDBY LED

This LED flashes while the muting circuit is activated when the power is turned on and when muting is turned on from the remote control unit, and remains lit (without flashing) while the power is on.

### ⑬ INPUT SELECTOR (Input Select Switch)

Use these to select the program source. When the button for the desired program source is selected, its LED lights. One program source can only be selected at a time, as follows:

- PHONO: Used to select the output from a turntable that is connected to the PHONO terminal. Use the PHONO switch (1) (Rear Panel Side) to switch the sensitivity to correspond to the cartridge type being used.
- CD: Used to listen a compact disc player or other component that is connected to the CD terminal.
- TUNER: Used to play a component such as an FM/AM tuner or a TV tuner that is connected to the TUNER terminal.
- AUX: Used to play a component such as a Hi-Fi video player, TV tuner, 8-track tape player or tape deck that is connected to the AUX terminal.
- DAT/TAPE-1: Use this Position when using the tape deck, etc., connected to the DAT/TAPE-1 jacks.
- DAT/TAPE-2: Use this Position when using the tape deck, etc., connected to the DAT/TAPE-2 jacks.

### ⑭ PHONO (Cartridge Selection Switch): Rear Panel Side

This switch is set according to the type of player cartridge to be used.

- MC (▲): Used when an MC (moving-coil) cartridge with an output of less than 0.5 mV is used.
- MM (▼): Used when an MM (moving-magnet) cartridge with an output of 2 mV or more is used.

### ⑯ AC OUTLETS: Rear Panel Side

• For U.S.A., Canada, and Taiwan R.O.C. models. AC outlets are used for connecting amplifier component units, such as tuner, turntable, tape deck, etc.

- SWITCHED (Total capacity: 120 W): These outlets are turned ON/OFF when main power switch and POWER button on the Remote Control Unit is turned on/off.
- UNSWITCHED (Capacity: 240 W): This outlet is always ON whether power switch is on or OFF.

• For Europe (except the U.K.), Asia and Hong Kong models. AC outlets are used for connecting amplifier component units, such as tuner, turntable, tape deck, etc.

- SWITCHED (Total capacity: 100 W): These outlets are turned ON/OFF when main power switch and POWER button on the Remote Control Unit is turned on/off.
- UNSWITCHED (Capacity: 100 W): This outlet is always ON whether power switch is on or OFF.

## OPERATION

### PREPARED

#### 1. CHECKING CONNECTIONS

- Make sure that all the connections are proper by referring to the back panel. (Fig. 2, 3)
- Check the polarity (positive and negative) of connections, and the directivity of stereo separation (right cord to right channel terminal, and left cord to left channel terminal).
- Check the directivity of pin cord connection.

#### 2. SETTING OF EACH KNOB

- Turn the volume control knob counterclockwise, to "0".
- Set the rotary knob to "flat".
- Set SOURCE DIRECT and LOUDNESS to "OFF (▲)".

After checking the above items, turn on the power, the amplifier is set in the ready mode in a few seconds.

### PLAYING A RECORD

1. Set the INPUT SELECTOR switch to "PHONO".
2. Operate the turntable and play the record.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

### PLAYBACK OF CD PLAYER

1. Set the INPUT SELECTOR switch to "CD".

2. Operate the CD player.

3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

### RECEPTION OF RADIO PROGRAMS

1. Set the INPUT SELECTOR switch to "TUNER".

2. Operate the tuner to receive a radio program.

3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

### CONNECTIONS OF AUDIO EQUIPMENT TO AUX TERMINALS

1. Set the INPUT SELECTOR switch to "AUX" Position.

2. Operate the Audio equipment Systems.

3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

### PLAYBACK WITH TAPE DECK

1. Set the INPUT SELECTOR switch to "DAT/TAPE-1" or "DAT/TAPE-2".

2. Operate the Tape Deck.

3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

### RECORDING WITH TAPE DECK

1. Set the REC OUT SELECTOR to the program source you wish to record.

2. Start the playback of the program source.

3. Start recording with the component connected to "DAT/TAPE-1" or "DAT/TAPE-2".

- In the PMA-925R/725R, the REC OUT signal and the speaker (headphone) signal are output via separate circuits so that knobs and switches related to the tone and volume have no effect whatever on the sound that is recorded. Also, since the recording function is selected by the REC OUT SELECTOR, the free program source can be played through the speakers (or headphones) even during recording.

### MONITORING THE RECORDING

A recording in progress can be monitored if a tape deck with three individual heads for recording and playback is used. A tape deck in which a common head is used for both recording and playback cannot be used to monitor recording. When a recording is being made using DAT/TAPE-1, selecting DAT/TAPE-1 with the INPUT SELECTOR will engage the RECORDING MONITOR and permit a check of the recording condition.

### CAUTION

#### Protective Circuit

This set is equipped with a high speed protective circuit. This circuit protects the internal circuitry from damage due to large currents flowing when the speaker jacks are not completely connected or when an output is generated by a short circuit. This protective circuit's operation cuts off the output to the speakers. In such a case, be sure to turn the power to the set off and check the connections to the speakers. Then turn the power on again. After muting for several seconds, the set will operate normally.

### NOTE

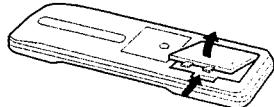
- This amplifier has a full memory back-up system. When the power is turned on, INPUT SELECTOR (1) are set to the last mode set before the power was turned off.

## REMOTE CONTROL OPERATION

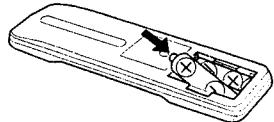
The accessory Remote Control Unit is used to control the amplifier from a convenient distance.

### (1) Inserting the Dry Cell Batteries

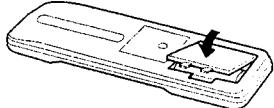
- 1. Remove the battery cover on the Remote Control Unit.



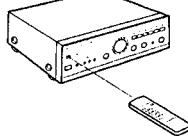
- 2. Insert two dry cell batteries as shown in the diagram on the battery supply unit.



- 3. Replace the battery cover.



### (2) Directions for use



- Operate the Remote Control Unit while pointing it towards the Remote Control Sensor on the Amplifier as shown in the diagram on the left.
- The Remote Control Unit can be used at distances up to about 8 meters in a straight line from the amplifier. This distance will decrease if there are obstructions blocking the infra-red light transmission or if the Remote Control Unit is not directed straight at the amplifier.

#### Note on operation

- Do not press the operating buttons on the Amplifier and the Remote Control Unit at the same time. This will cause misoperation.
- Operation of the Remote Control Unit will become less effective or erratic if the infrared Remote Control Sensor on the Amplifier is exposed to strong light or if there are obstructions between the Remote Control Unit and the sensor.
- In case you operate a VCR, TV or other components by remote control, do not operate buttons on two different remote control units at the same time. This will cause misoperation.

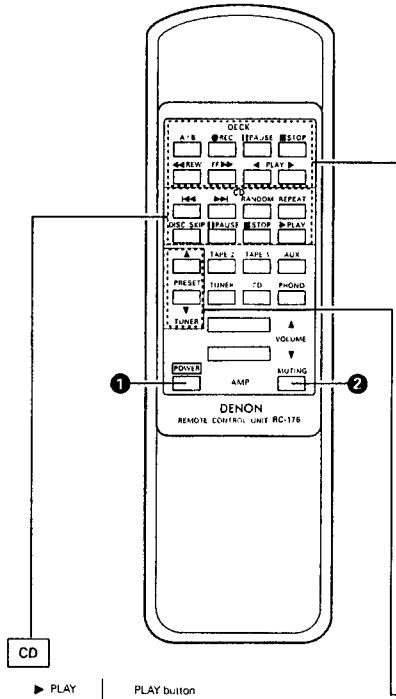
**Besides being able to operate the PMA-925R/725R amplifier with this Remote Control Unit, you can also operate a DENON cassette deck and CD player from this handy full-system Remote Control Unit.**

#### Remote control section

##### Full-system Remote Control Unit

The full-system Remote Control Unit operates all major functions of the Amplifier, such as function switching, volume control. But that's not all! The same control pad can also control the major functions of a DENON CD player and cassette deck and tuner when combined with the PMA-925R/725R to create a remarkably ergonomic and versatile DENON system with all the quality sound reproduction that the devoted audiophile expects. .

## Remote Control Unit RC-176 supplied with the PMA-925R/725R



### ① POWER button

This button can be used to turn on and off the power of the amplifier. However, the power for the amplifier turned on and off if it is in the power standby mode and the power cord is plugged in.

This button will not function if there is a power failure, if the power cord is not plugged in, or when using an audio timer.

### ② MUTING button

Pressing this switch will activate the muting condition and no signals will be output to the speakers.

#### Other buttons

Other buttons are exclusively for the PMA-925R/725R, and function in the same way as the corresponding buttons on the set.

#### DECK

► PLAY	PLAY button
■ STOP	STOP button
I ▲	Reverse Track Search button
► ▼	Forward Track Search button
RANDOM	Refer to the operating instructions of your DENON CD player
REPEAT	
DISC SKIP	
II PAUSE	PAUSE button

#### TUNER

### PRESET buttons

Press this button to move up or down among the preset station numbers.

► PLAY	PLAY button
■ STOP	STOP button
I ▲	Reverse Track Search button
► ▼	Forward Track Search button
RANDOM	Refer to the operating instructions of your DENON CD player
REPEAT	
DISC SKIP	
II PAUSE	PAUSE button

- The RC-176 Remote Control Unit can control CD players and cassette decks manufactured by DENON

- Note that operation may not be possible for some models

- Buttons are conveniently separated into groups, each group controlling one specific component. The groups are AMP, FUNCTION, CD, DECK and TUNER etc..

For details on operating other components, refer to the operating instructions for the CD player and/or cassette deck.

#### CAUTION:

- If the power is turned off with the Remote Control Unit, the set is switched to the power stand-by state. If you are absent for a long period of time, unplug the power cord.
- Only the MUTE/STANDBY LED lights when in the power stand-by mode.
- You may experience erratic operation of the Remote Control Unit if it is operated in fluorescent light and direct sunlight, in particular if this light strikes the Remote Control Sensor on the Amplifier. However, this is not a malfunction, and if this should happen, simply protect the sensor against such light.

Technical Data (typical value)	Technische Daten (typische Werte)	Caractéristiques techniques (valeur caractéristique)	PMA-925R/725R
<b>POWER AMPLIFIER SECTION</b>			
<b>Rated Output Power:</b> • Both channel driven: 20 W/20 Hz - 20 kHz no more than 0.02%/0.05% total harmonic distortion DIN, 1 kHz, THD 0.7%	<b>LEISTUNGSSENDS VERSTÄRKER</b> <b>Nenn-Ausgangsleistung:</b> • Beide Kanäle betrieben: 20 W/20 Hz - 20 kHz nicht mehr als 0.02%/0.05% total harmonische Verzerrung DIN, 1 kHz, THD 0.7%	<b>PARTIE AMPLIFICATEUR DEPUISSEANCE</b> <b>Puissance nominale:</b> • Amplification deux canaux 20 W/20 Hz - 20 kHz charge à 0 Ω/ohms 20 W/20 Hz, THD 0.02%/0.05% charge 4 Ω/ohms DIN, 1 kHz, THD 0.7%	80W+80W/65W+65W 130W+130W/100W+100W
<b>Total Harmonic Distortion:</b> (-3 dB at rated output, 8 Ω/ohms)	<b>• 20Hz-20kHz</b> • 20Hz-20kHz no more than 0.02%/0.05% total harmonic distortion	<b>• 20Hz-20kHz</b> • 20Hz-20kHz Gesamtklirrfaktor von nicht mehr als 0.02%/0.05% oder weniger.	80W/65W
<b>PRE AMPLIFIER SECTION</b>			
<b>Rated Output:</b> (Recout Terminal) Input Sensitivity/ Input Impedance/ PHONO:	<b>VORVERSTÄRKER</b> <b>Nenn-Ausgangsleistung:</b> (Aufnahme-Ausgangsbuchse) Eingangsempfindlichkeit/ Eingangsimpedanz/ PHONO:	<b>PRE-AMPLI</b> <b>Puissance nominale:</b> (Borne de sortie d'enregistrement) Sensibilité d'entrée/ Impédance d'entrée: PHONO:	150 mV
CD, TUNER AUX TAPE-1, TAPE-2:	CD, TUNER AUX TAPE-1, TAPE-2:	CD, TUNER AUX TAPE-1, TAPE-2:	MM 2.5 mV/47 kΩ/ohm MC 200 μV/100 kΩ/ohm 150 mV/1 kΩ/ohm
RIAA Deviation: PHONO: Within ± 0.3 dB	Abweichung von der RIAA-Kennlinie: PHONO: Innerhalb ± 0.3 dB	Variation RIAA: PHONO: 10 Hz ± 0.3 dB	20 Hz ~ 20 kHz PHONO MM 160 mV/1 kHz MC 12mV/1 kHz
Maximum Input:	Maximaler Eingang:	Entrée max.:	
<b>OVERALL CHARACTERISTICS</b>			
<b>SN Ratio (IHF A Network):</b>	<b>GESAMTEIGENSCHAFTEN</b> <b>Signal/Rauschabstand</b> <b>(IHF-A-Weiche):</b>	<b>CARACTERISTIQUES GÉNÉRALES</b> <b>Rapport signal/bruit</b> <b>(réseau IHF A):</b>	
Input terminals shortcircuited!	(Eingänge kurzgeschlossen)	(Bornes d'entrée court-circuitées)	
SOURCE-DIRECT ON	SOURCE DIRECT ON	SOURCE DIRECT ON	
Tone Control Adjustable Range: BASS TREBLE	Klangregelbereich: TEILEN (BASS) HOHEN (TREBLE)	Gamme de réglage de tonalité: GRAVES AIGUS	100 Hz ± 8 dB 10 kHz ± 8 dB
Loudness:	Gehörrichtige Lautstärke:	Compensation physiologique:	100 Hz ± 7 dB 10 kHz ± 6 dB
<b>OTHERS</b>			
Power Supply	<b>• SONSTIGES</b> Netzspannung und Frequenz	<b>• AUTRES</b> Alimentation	AC230V/50 Hz (For Europe, Asia and Hong Kong models) AC120V/60 Hz (For U.S.A., Canada, and Taiwan R.O.C. models)
AC Outlets Switched × 2.	Wechselstrom-Ausgänge Geschaltet × 2:	Prises secteur (AC) Commutées × 2:	100W (Total) (For Europe (except the U.K.), Asia and Hong Kong models) 120W (Total) (For U.S.A., Canada, and Taiwan R.O.C. models) 100W (For Europe (except the U.K.), Asia and Hong Kong models) 240W (For U.S.A., Canada, and Taiwan R.O.C. models) 200W (For U.S.A.) 4.2A/2.6A (U.S.A. and Canada models) 434(W) × 162(H) × 348(D)mm PMA-925R (17-3/32" × 6-5/8" × 13-5/8") 434(W) × 142(H) × 348(D)mm PMA-725R (17-3/32" × 6-19/32" × 13-5/8")
Unswitched × 1:	Uingeschaltet × 1:	Non commutées × 1:	11 kg (24 lbs 4 oz) / 9.6 kg (21 lbs 0 oz)
Power Consumption	Leistungsaufnahme	Consommation	
Dimensions (W) × (H) × (D)	Abmessungen (B) × (H) × (T)	Dimensions (L) × (H) × (D)	
Net Weight REMOTE CONTROL UNIT (RC-176)	Nettogewicht FERNBEDIENUNGSGERÄT (RC-176)	Poids UNITÉ DE TÉLÉCOMMANDE (RC-176)	
Remote control system: Infrared pulse system	Fernbedienungs-System: Infrarot-Impulse	Système de télécommande: Système à impulsions infrarouge	
Power supply: 3 " D size batteries or two Dry cell batteries	Stromversorgung: 3 " D Batterien oder zwei Trockenzellen- Batterien oder zwei Batterien AA	Alimentation: 3 " C, deux piles sèches de format R6P ("AA")	55(W) × 194(H) × 10(D)mm 2-1/8" × 7-4/5" (5/8" × 45/64")
External dimensions: Weight:	Außendimensionen: Gewicht:	Dimensions extérieures: Poids:	100 g (about 3.5 oz) (including batteries)

Note: \*1 For Europe, Asia and Hong Kong  
\*2 For U.S.A., Canada, and Taiwan R.O.C.

Hinweis: \*1 Für Europa, Asien und Hong Kong  
\*2 Für USA, Kanada, und Taiwan R.O.C.

Note: \*1 Pour Europe, Asie et Hongkong  
\*2 Pour U.S.A., Canada, et Taiwan R.O.C.

- Specifications and contents are subject to change without notice for purposes of improvement.
- Änderungen des Inhalts und der technischen Daten zum Zwecke der Verbesserung vorbehalten.
- Spécifications et contenu sont sujets à modification sans préavis.

### ENGLISH

Please check to make sure the following items are included with the main unit in the carton:

- |  |   |
|--|---|
| (1) Operating Instructions .....       | 1 |
| (2) Remote Control Unit (RC-176) ..... | 1 |
| (3) Batteries R6P (AA) .....           | 2 |

### ESPAÑOL

Por favor verifique asegurandose de que los siguientes artículos son empacados en la caja pero separados de la unidad principal.

- |   |   |
|---|---|
| (1) Manual de instrucciones .....           | 1 |
| (2) Unidad de control remoto (RC-176) ..... | 1 |
| (3) Pilas R6P (AA) .....                    | 2 |

### DEUTSCH

Bitte überprüfen Sie, ob die folgenden Teile vollständig in der Verpackung enthalten sind:

- |                                      |   |
|--------------------------------------|---|
| (1) Bedienungsanleitung .....        | 1 |
| (2) Fernbedienung (RC-176) .....     | 1 |
| (3) Batterien vom Typ R6P (AA) ..... | 2 |

### NEDERLANDS

Kontroleer of de volgende accessoires bij het hoofdtoestel in de doos zijn verpakt:

- |                                      |   |
|--------------------------------------|---|
| (1) Gebruiksaanwijzing .....         | 1 |
| (2) Afstandsbediening (RC-176) ..... | 1 |
| (3) Batterijen R6P (AA) .....        | 2 |

### FRANCAIS

Veuillez contrôler que les articles suivants sont bien joints à l'appareil principal dans le carton:

- |  |   |
|--|---|
| (1) Mode d'emploi .....                  | 1 |
| (2) Unité de télécommande (RC-176) ..... | 1 |
| (3) Piles R6P (AA) .....                 | 2 |

### ITALIANO

Controllare che le parti seguenti si trovino imballate con l'apparecchio nella scatola di spedizione.

- |                                     |   |
|-------------------------------------|---|
| (1) Libretto delle istruzioni ..... | 1 |
| (2) Telecomando (RC-176) .....      | 1 |
| (3) Batterie R6P (AA) .....         | 2 |

### PORTUGUÊS

Certifique-se de que as seguintes peças estão incluídas na embalagem fora da unidade principal:

- |   |   |
|---|---|
| (1) Instruções de operação .....              | 1 |
| (2) Unidade de controle remoto (RC-176) ..... | 1 |
| (3) Baterias R6P (AA) .....                   | 2 |

### 中 文

下列物品隨主機一起包裝於紙箱內，請查對：

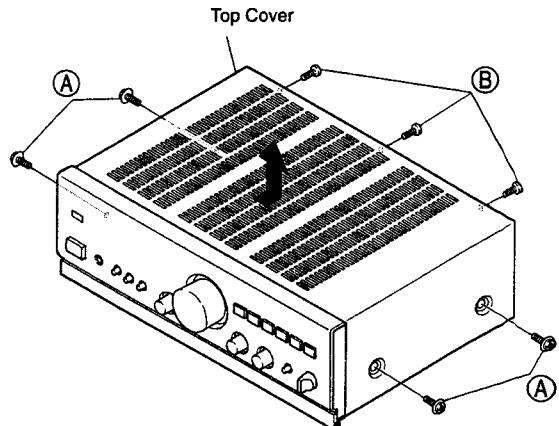
- |                       |   |
|-----------------------|---|
| (1) 操作說明書 .....       | 1 |
| (2) 遙控器(RC-176) ..... | 1 |
| (3) 電池 R6P(AA) .....  | 2 |

### MEMO:

## REMOVAL OF EACH SECTION

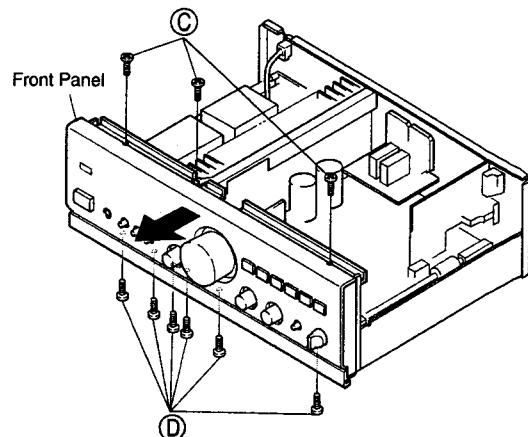
### ● Top Cover

- 1) Remove 4 screws (A) and 3 screws (B).
- 2) Pull up Top Cover in arrow direction.



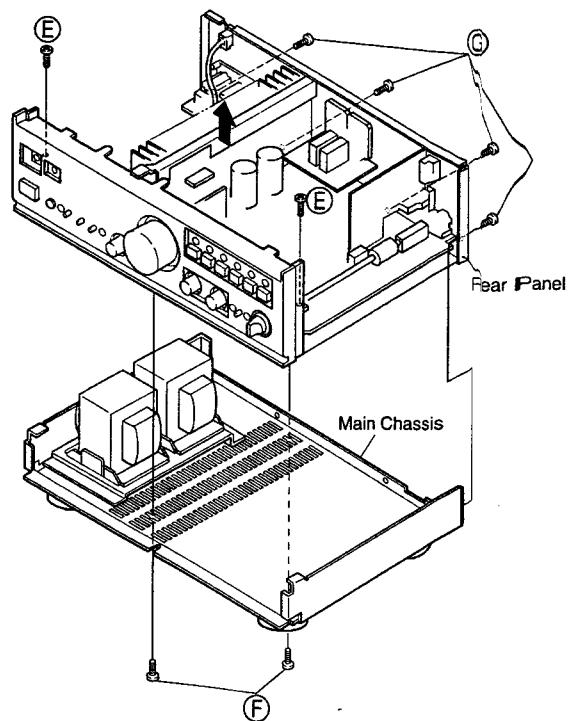
### ● Front Panel

- 1) Remove 3 screws (C).
- 2) Remove 6 screws (D).
- 3) Detach Front Panel in arrow direction.



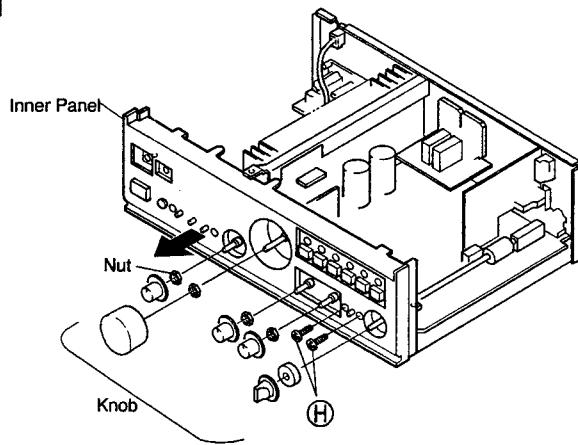
### ● Main Chassis

- 1) Remove 2 screws (E).
- 2) Remove 2 screws (F) securing Power Radiator with Main Chassis.
- 3) Remove 4 screws (G) securing Rear Panel with Main Chassis.



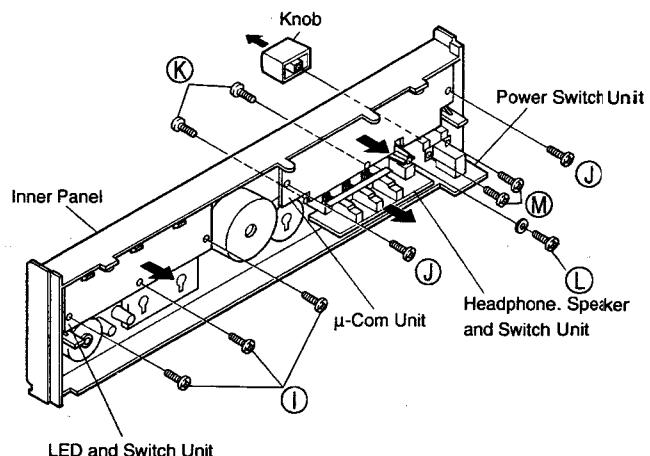
### ● Inner Panel

- 1) Remove 5 Knobs and 4 nuts.
- 2) Remove 2 screws (H) and detach Inner Panel in arrow direction.



### ● Each Unit of Inner Panel

- 1) Remove 3 screws (I), and detach LED and Switch Unit.
- 2) Remove 2 screws (J), and detach μ-Com Unit.
- 3) Remove 2 screws (K) securing Headphone, SP Switch Unit with Inner Panel.
- 4) Remove 1 screw (L) and 1 washer, and detach Headphone, SP. switch Unit.
- 5) Remove 2 screws (M) and a Knob, then detach Power Switch Unit.



## FUNCTION OF NEW CIRCUIT

### 1. CHARACTERISTIC OF THIS CIRCUIT

The junction temperature of power amplifier output transistor always varies by an ambient temperature and music signal. Occurrence of junction temperature varying causes in change of bias current, unstable function, thus pure music signal playback is unable to do.

To maintain fixed bias current and to make pure music signal playback possible is the purpose of this circuit. This circuit holds stable bias current condition within a few seconds after turning on the power.

### 2. BLOCK DIAGRAM OF BIAS CONTROL CIRCUIT FUNCTION

As explained in Fig. 1, detects a voltage across the emitter resistors (RE) of TR1, TR2. Converts the detected voltage and comparing with the reference voltage to make the bias current value in stable state. Actually, these functions are performed by 1 chip IC.

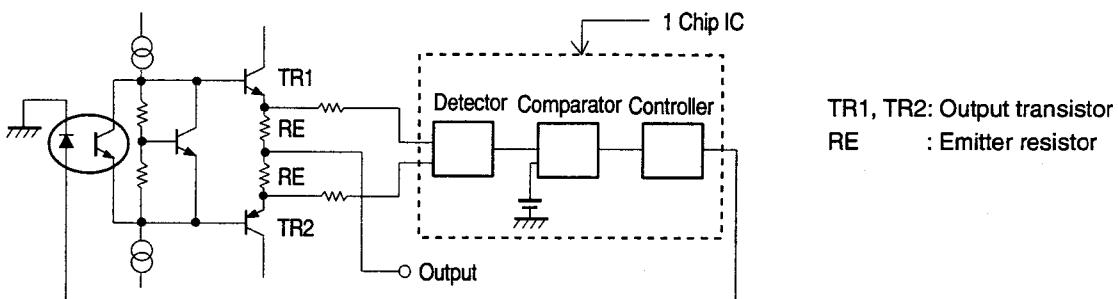
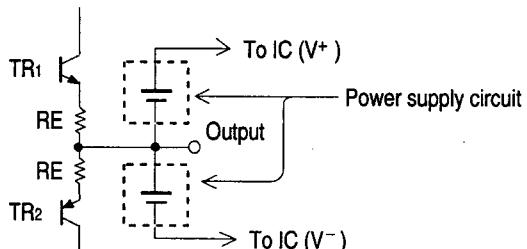


Fig. 1

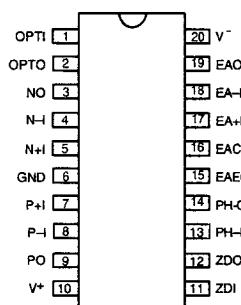
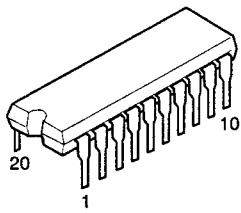
### 3. POWER SUPPLY FOR ACTUATING CONTROL CIRCUIT



The circuit (IC) controlling bias current actuates by floating.  
Accordingly, the power supply is also needed to be floated.  
In this circuit, as indicated in Fig. 2, output is common to provide +, - power system and supplies to IC.

Fig. 2

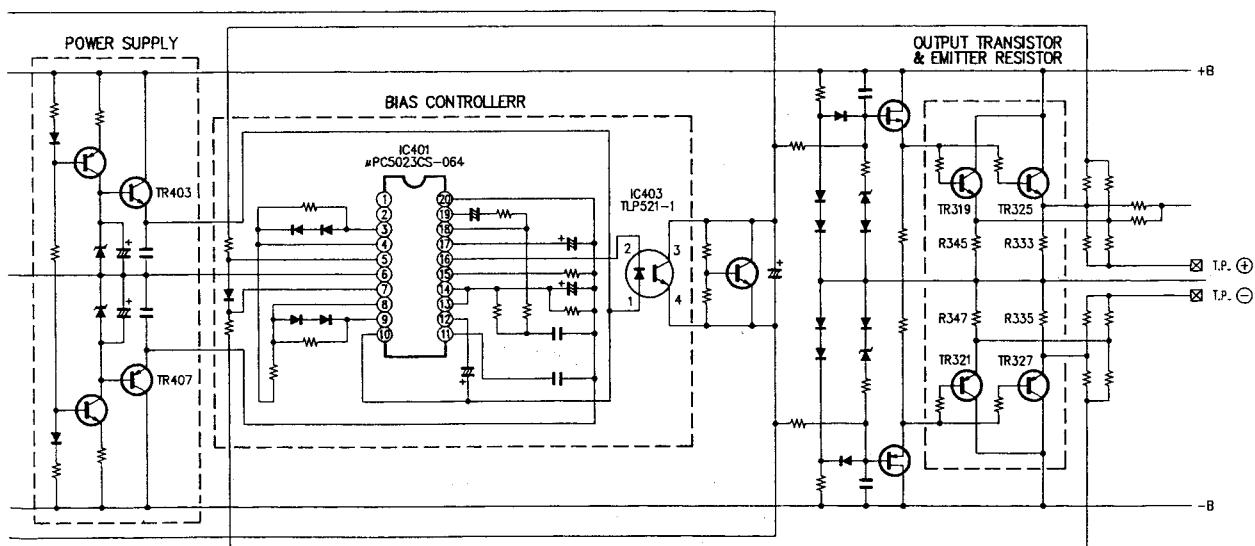
#### 4. IC DESCRIPTION ( $\mu$ PC5023CS-064)



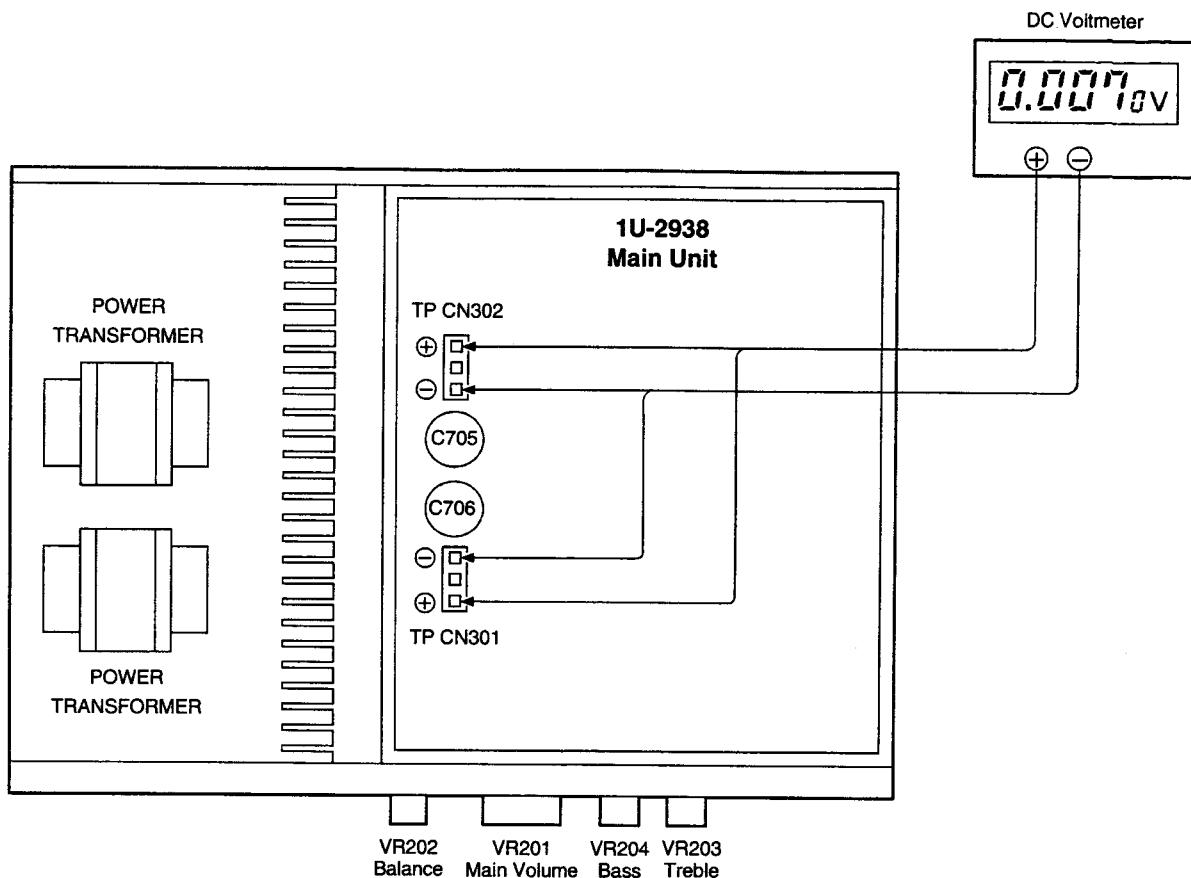
Pin. No.	Name	Contents
1	OPTI	NCP
2	OPTO	
3	NO	Comparator output
4	N-I	Comparator input (-)
5	N+I	Comparator input (+)
6	GND	Floating common
7	P+I	Comparator input (+)
8	P-I	Comparator input (-)
9	PO	Comparator output
10	V+	+ Power supply

Pin. No.	Name	Contents
11	ZDI	Control signal stabilizer input
12	ZDO	Control signal stabilizer output
13	PH-I	Peak hold input
14	PHO	Peak hold output
15	EAEO	Controller gain setting
16	EACO	Control signal output
17	EA-I	Reference voltage
18	EA-1	Comparator gain setting
19	EA0	Comparator output
20	V-	- Power supply

#### 5. CIRCUIT IN THE CONCRETE



## METHOD OF ADJUSTMENTS



### IDLING CURRENT

- Setup

1. Lay the unit at an ordinary position away from a direct current from a cooler or fan. Do the adjustment at a temperature between 15°C (59°F) and 30°C (86°F).
2. Set controls as follows.

POWER SWITCH → OFF (■)

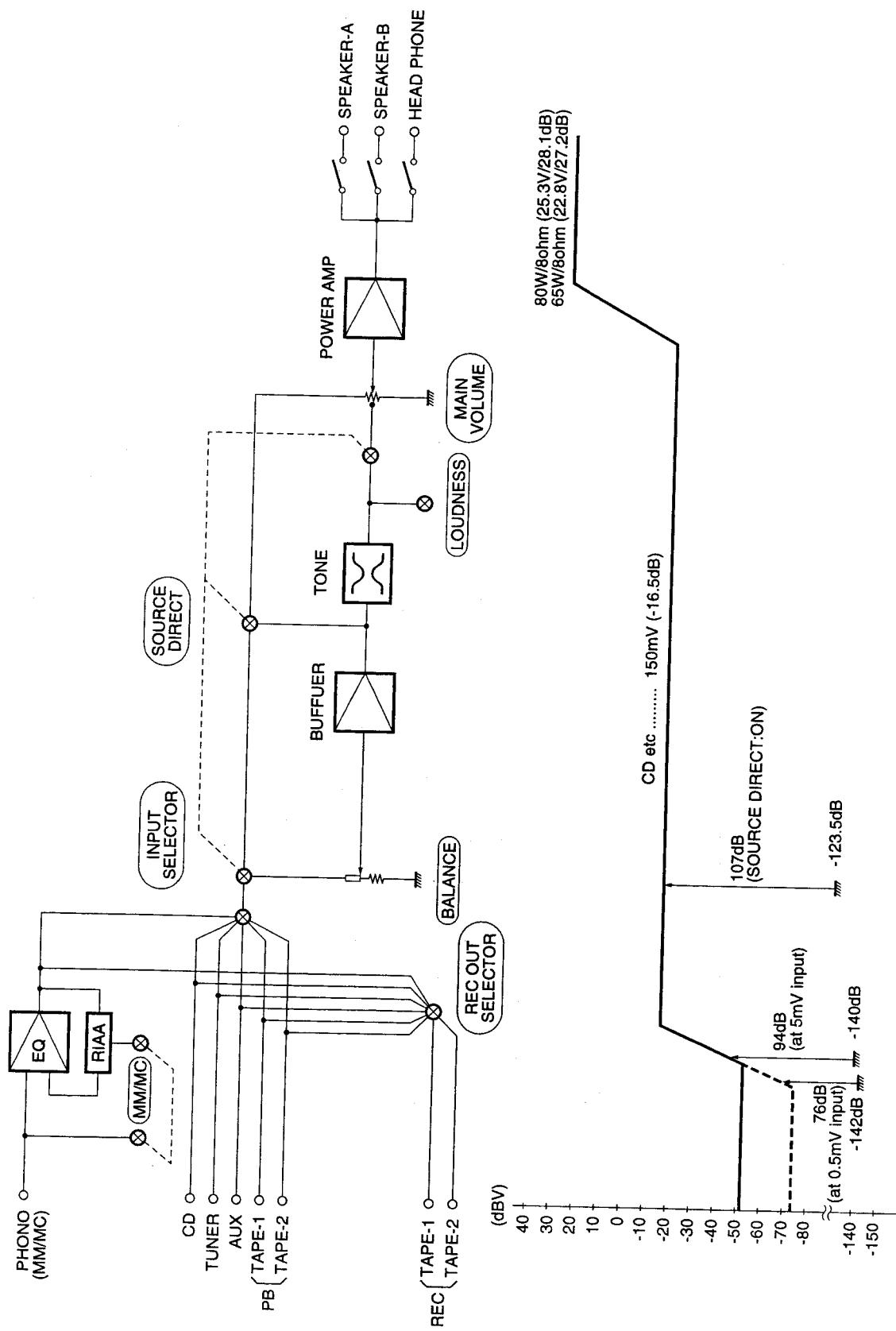
VOLUME CONTROL → fully counterclockwise. (○) min. (Main Volume VR201)  
(VR202, 203 and 204 are center position.)

SPEAKER Terminals → open: do not connect the speakers, dummy load etc.

- Confirm

1. Remove Top cover. And then connect DC Voltmeter to Test points of Main Unit.
2. Connect Power cord to AC Outlet, and turn POWER Switch "on" (—).
3. 10 seconds after check to see DC Voltmeter reading is  $7 \pm 2\text{mV}$ .
4. 2 minutes after re-check DC Voltmeter for  $7 \pm 2\text{mV}$  reading.

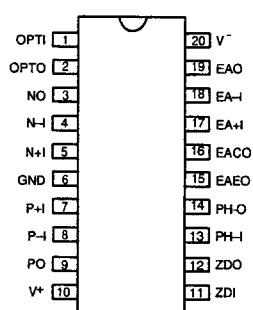
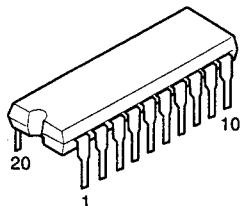
## BLOCK AND LEVEL DIAGRAM



## SEMICONDUCTORS

### ● IC's

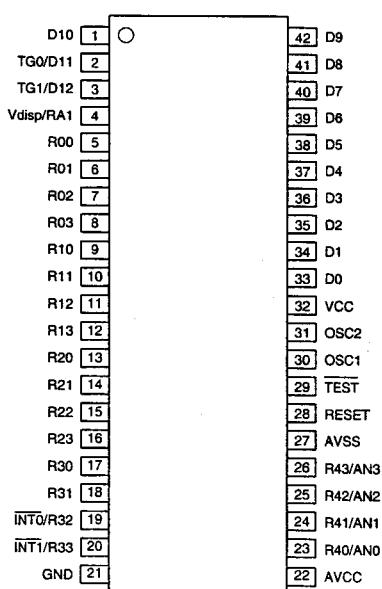
$\mu$ PC5023CS-064 (IC401,402)



Pin. No.	Name	Contents
1	OPTI	NCP
2	OPTO	
3	NO	Comparator output
4	N-I	Comparator input (-)
5	N+I	Comparator input (+)
6	GND	Floating common
7	P+I	Comparator input (+)
8	P-I	Comparator input (-)
9	PO	Comparator output
10	V+	+ Power supply

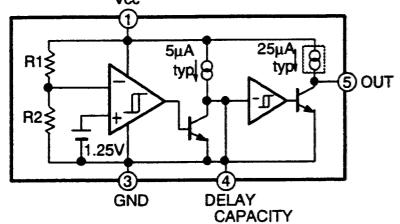
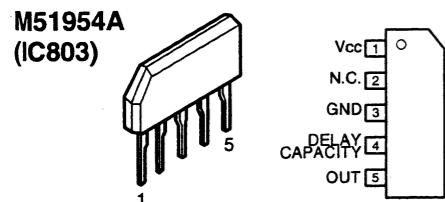
Pin. No.	Name	Contents
11	ZDI	Control signal stabiliser input
12	ZDO	Control signal stabiliser output
13	PH-I	Peak hold input
14	PHO	Peak hold output
15	EAEO	Controller gain setting
16	EACO	Control signal output
17	EA-I	Reference voltage
18	EA-1	Comparator gain setting
19	EAO	Comparator output
20	V-	- Power supply

HD404304A13P (IC801)

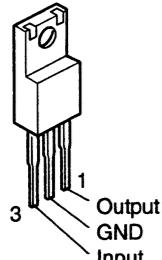


HD404304A13P Terminal Function

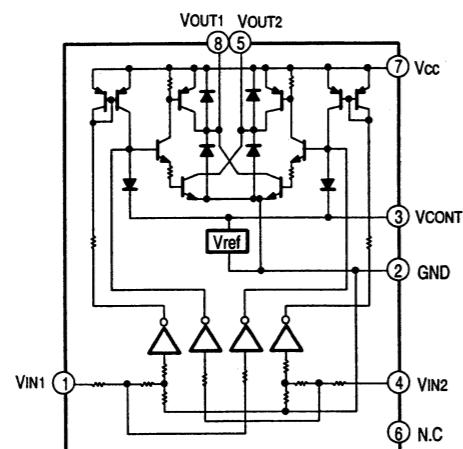
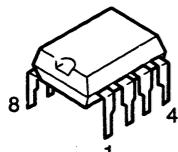
Pin No.	Name	I/O	Contents	Active
1	D10	O	MUTE/STANDBY LED Indication	H
2	TG0/D11	O	NOP	L
3	TG1/D12	O	Power Control (REMOTE Power-ON/OFF)	L
4	Vdisp/RA1	I	NOP	
5	R00	O	NOP	
6	R01	O	Muting Control (Power ON-OFF, Function Shifting, MUTING)	L
7	R02	O	SP-A Control	H
8	R03	O	SP-B Control	H
9	R10	O		H
10	R11	O	Key scan strobe	H
11	R12	O		H
12	R13	O	NOP	
13	R20	I		
14	R21	I		
15	R22	I	Key scan receive	
16	R23	I		
17	R30	O	Volume Control "UP" → "H"	H
18	R31	O	Volume Control "DOWN" → "H"	H
19	INT0/R32	I	Power Breakdown detect input	
20	INT1/R33	I	Remote control signal decoding input	
21	GND		GND	
22	AVcc		Avcc (Vcc)	
23	R40/AN0		NOP	
24	R41/AN1	I	NOP	
25	R42/AN2	I	NOP	
26	R43/AN3	I	Discrimination port by user's genre	
27	AVss		AVss (GND)	
28	RESET		M51954A; External	
29	TEST		Vcc	
30	OSC1		Celler Fil Oscillator 4MHz; External	
31	OSC2		Celler Fil Oscillator 4MHz; External	
32	Vcc		Vcc	
33	D0	O	NOP	
34	D1	O	NOP	
35	D2	O	TAPE-2 Control	H
36	D3	O	TAPE-1 Control	H
37	D4	O	NOP	
38	D5	O	AUX Control	H
39	D6	O	TUNER Control	H
40	D7	O	NOP	
41	D8	O	CD Control	H
42	D9	O	PHONO Control	H



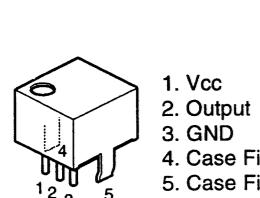
NJM7806FA(S) (IC702)



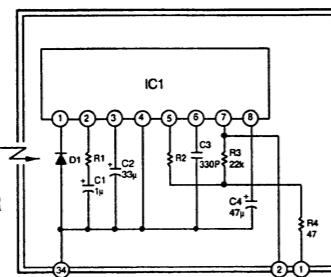
LB1639 (IC802)



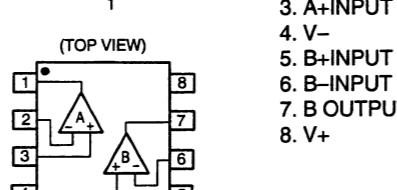
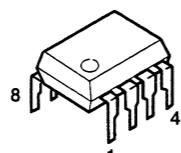
SBX1610-52 (Remote Control Receiver) (IC105)



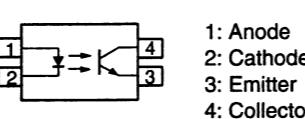
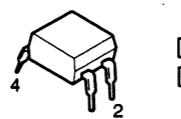
1. Vcc  
2. Output  
3. GND  
4. Case Fin  
5. Case Fin



IC1 : CX20106A Chip  
D1 : PIN Photo Diode Chip  
C1,C2,C4 : Aluminum Electrolytic Capacitor  
C3 : SL Characteristic ±5%  
R1 : Gain Adjuster  
R2 : fo Adjuster ±1% USE  
R3,4 : ±5%

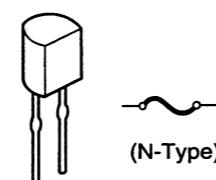
BA4558 (IC201, 901)  
NJM2068DDC (IC202)

1. A OUTPUT
2. A-INPUT
3. A+INPUT
4. V-
5. B+INPUT
6. B-INPUT
7. B OUTPUT
8. V+

TLP521-1(BL)  
INFRARED LED + PHOTO TRANSISTOR  
(IC403, 404)

- 1: Anode
- 2: Cathode
- 3: Emitter
- 4: Collector

### ● IC PROTECTOR ICP-15 (IC701)



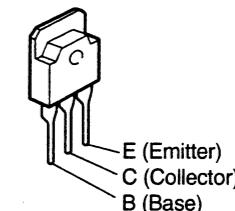
### ● TRANSISTORS

2SA970 (BL), (BL/GR)  
2SA988 (E/F)  
2SC1841 (E/F)  
2SC1815 (BL)  
2SC2240 (BL/GR)



2SA1145 (O)/(Y)  
2SC2705 (O)/(Y)

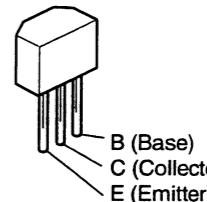
2SA1491 (O/P/Y)/(Z) PMA-925R  
2SC3855 (O/P/Y)/(Z) PMA-925R  
2SB1560 (O/P/Y) PMA-725R  
2SD2390 (O/P/Y) PMA-725R



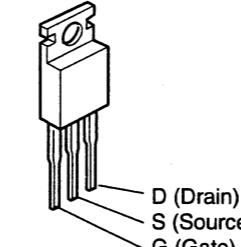
2SA1038S (S/E)  
2SA933S (S)  
2SC2389S (S/E)  
2SSC1740S (S)



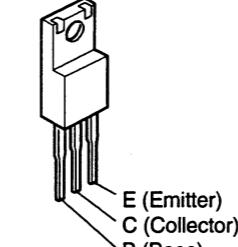
DTA114ES



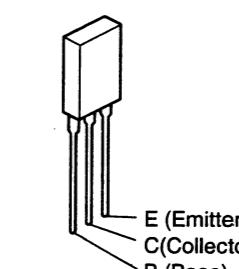
2SJ78  
2SK215



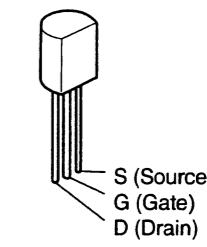
2SD2395 (E/F)  
2SB1566 (E/F)



2SB1328 (P)



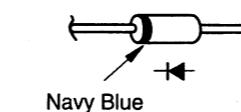
2SK369 (BL)/(GR)-C



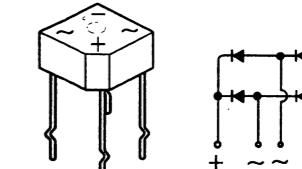
### ● DIODES (including LED)

1SS252

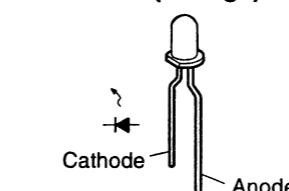
MTZJ 3.9A MTZJ 36A  
MTZJ 7.5A MTZJ 16A  
MTZJ 18A



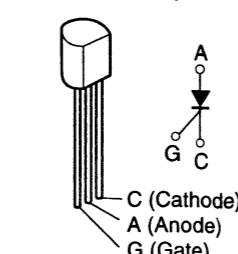
S4VB20F (D702) PMA-725R  
4D4B42 (D702) PMA-925R



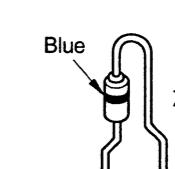
SLR56-VR (Red)  
SLR56-DU (Orange)



Thyristor  
SF0R1A42 (SC601)

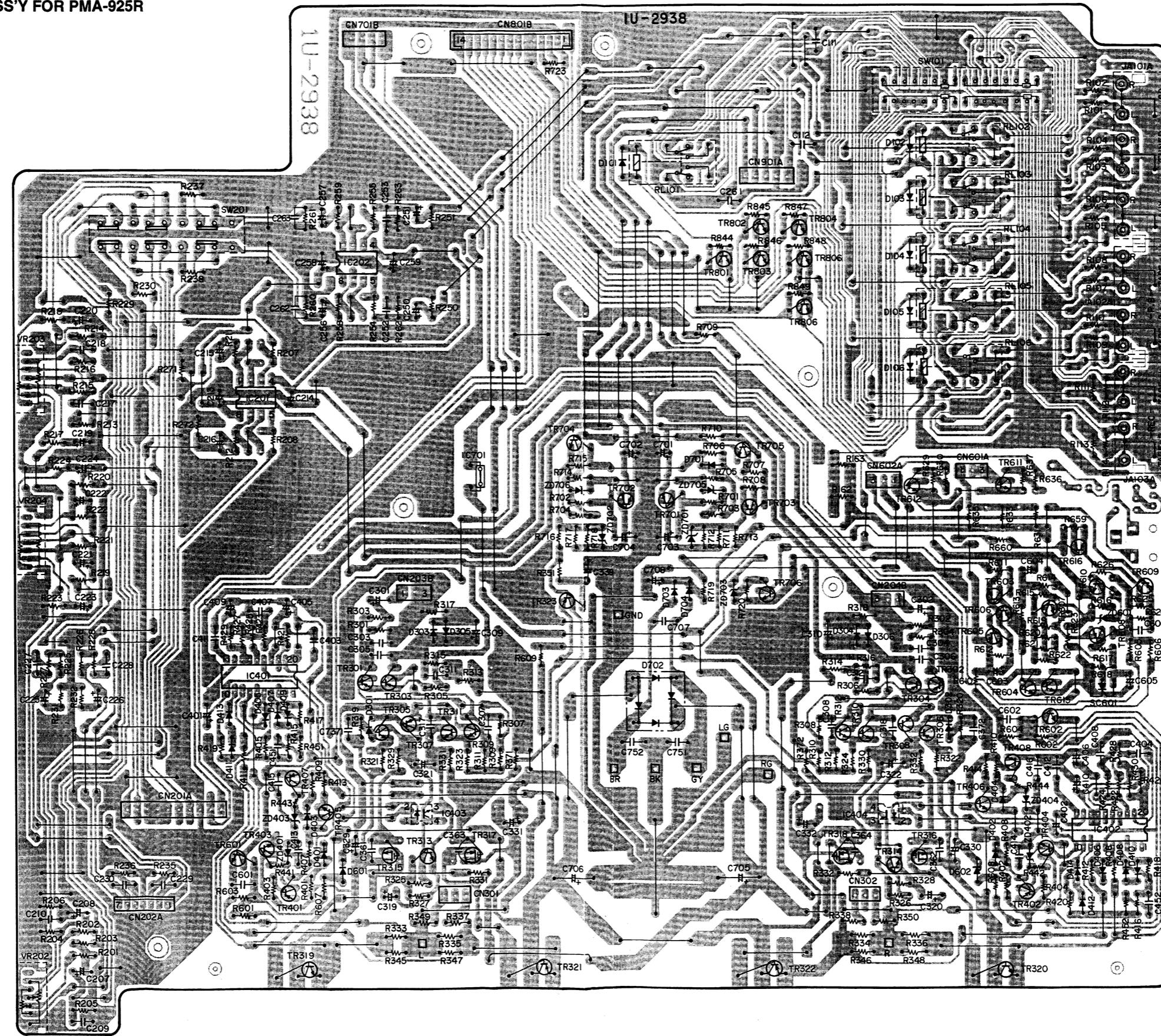


1SR35-200A



## **PRINTED WIRING BOARD (Pattern Side)**

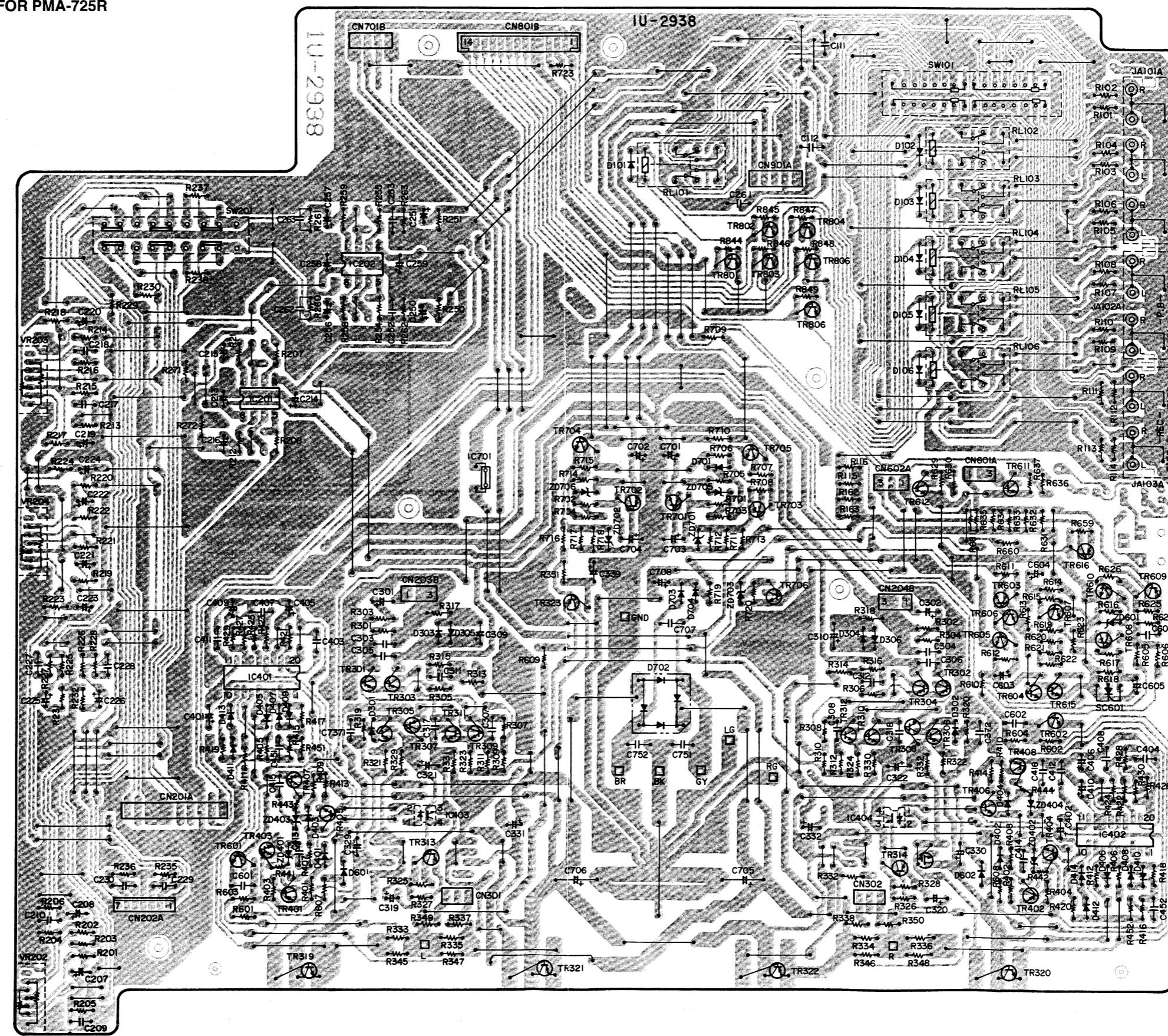
**92938C MAIN UNIT ASS'Y FOR PMA-925R**



1 2 3 4 5 6 7 8

**1U-2938 MAIN UNIT ASS'Y FOR PMA-725R**

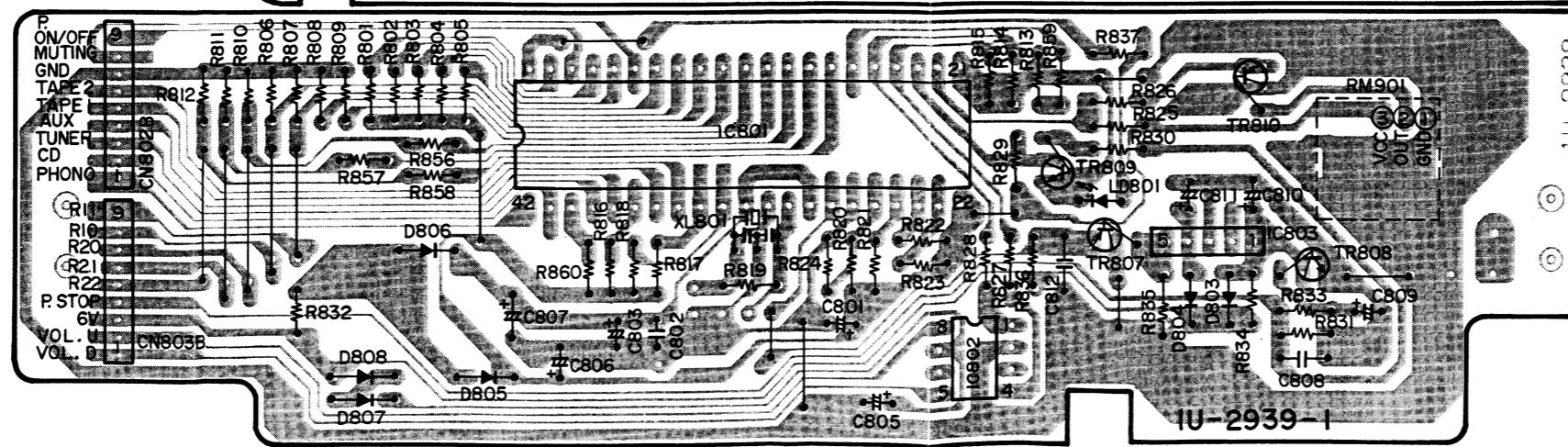
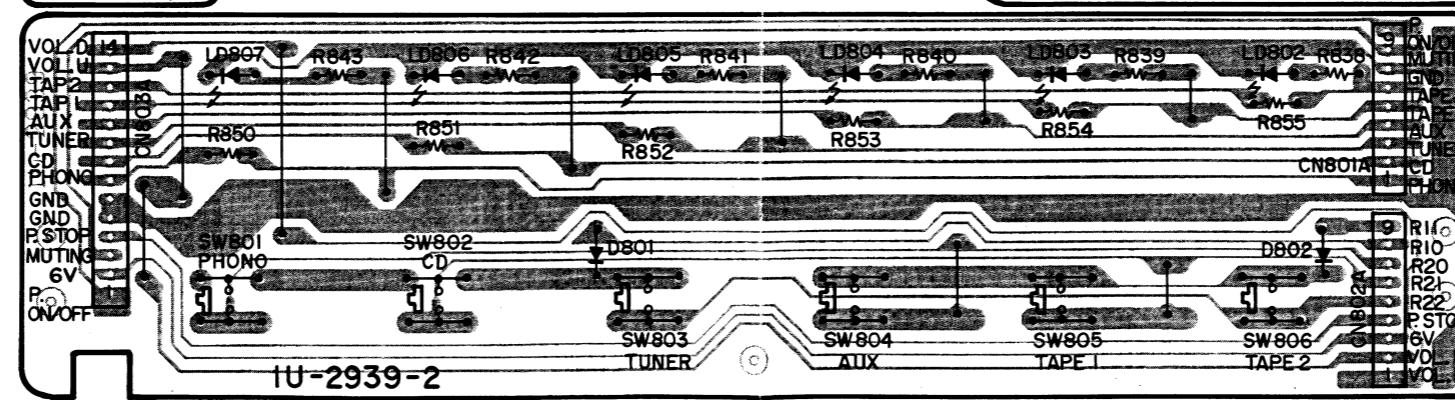
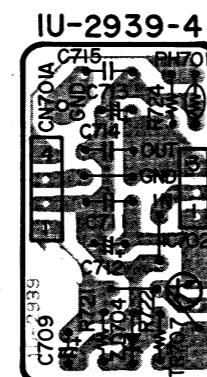
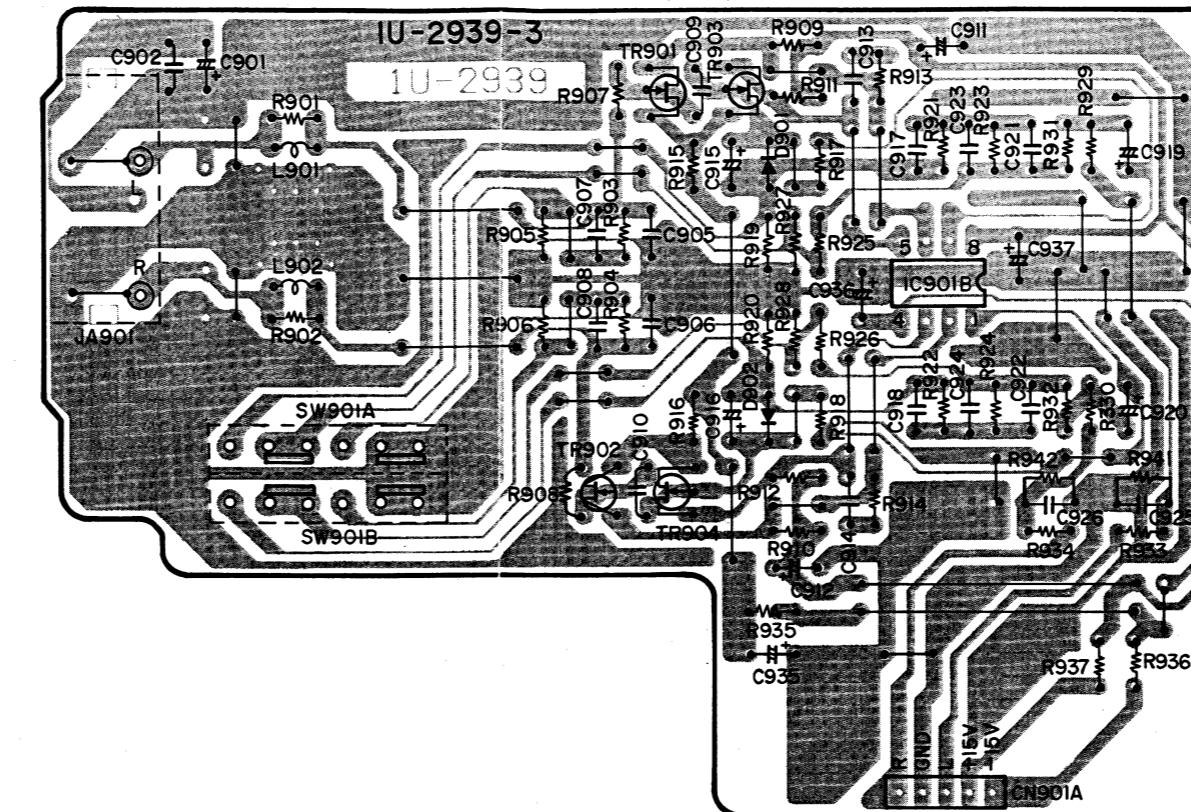
1U-2938A EUROPE Model  
1U-2938B U.K. Model



1 2 3 4 5 6 7 8

## 1U-2939A μ-COM. UNIT ASS'Y

1U-2939A μ-Com. Unit Ass'y	
-1	μ-Com. Unit
-2	LED Unit
-3	Phono Unit
-4	Supply Unit



A

B

C

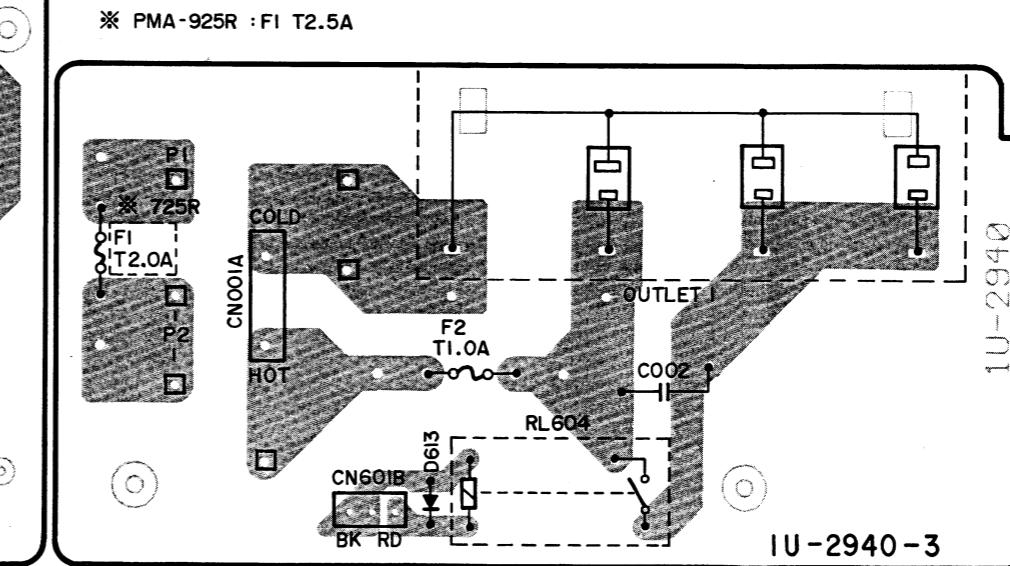
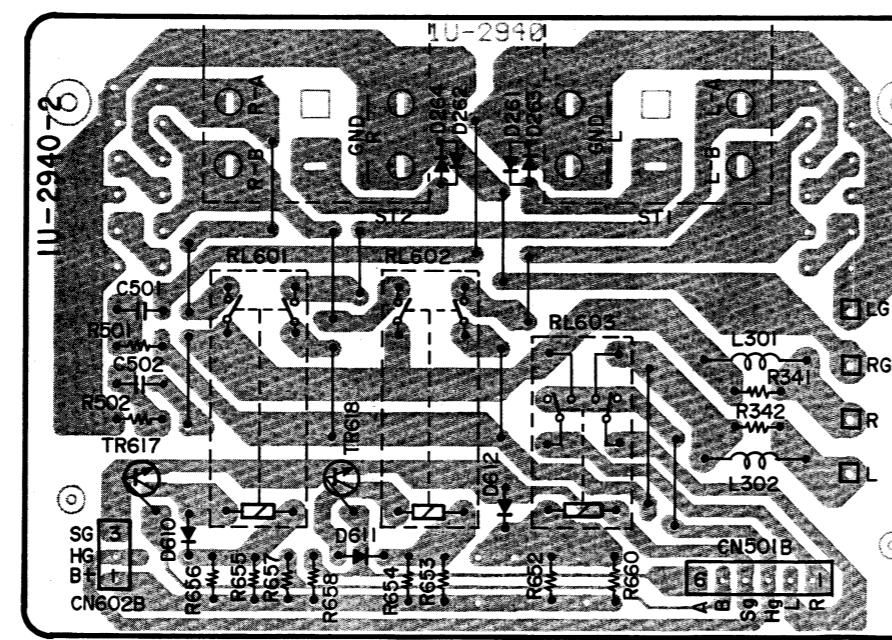
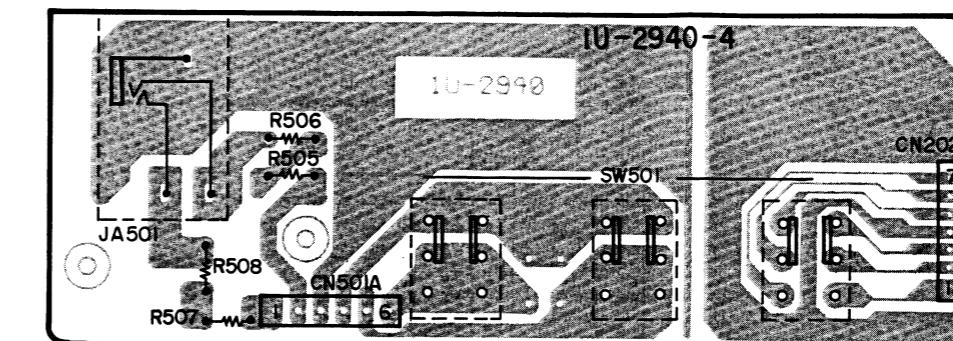
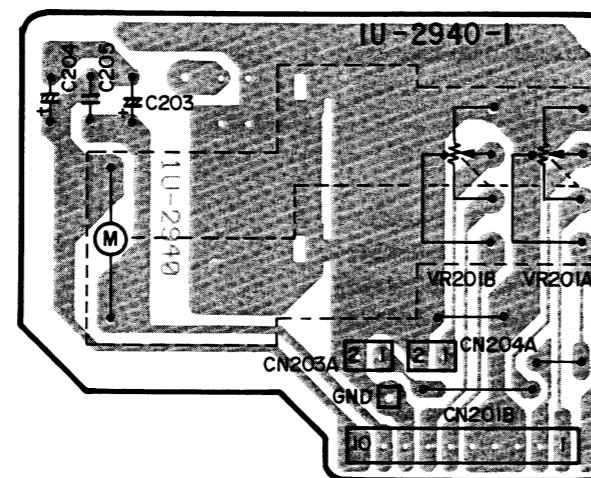
D

E

1 2 3 4 5 6 7 8

**1U-2940 VOLUME UNIT ASS'Y**  
 1U-2940A : PMA-725R EUROPE Model  
 1U-2940B : PMA-725R U.K. Model  
 1U-2940C : PMA-925R

1U-2940 Volume Unit Ass'y	
-1	Volume Unit
-2	Speaker Unit
-3	AC Outlet Unit
-4	Speaker Sel. Unit



A

B

C

D

E

## NOTE FOR PARTS LIST

- Part indicated with the mark "◎" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "I" and "II" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

## WARNING:

Parts marked with this symbol have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

## • Resistors

Ex.: RN	14K	2E	182	G	FR
Type	Shape and performance	Power	Resist-ance	Allowable error	Others
RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type		
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type		
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type		
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor		
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming		
RK : Metal mixture	3F : 3W				
	3H : 5W				

\* Resistance  
 1 8 2 ⇒ 1800 ohm = 1.8 kohm  
 Indicates number of zeros after effective number.  
 2-digit effective number.

• Units: ohm

1 R 2 ⇒ 1.2 ohm  
 1-digit effective number.  
 2-digit effective number, decimal point indicated by R.

• Units: ohm

## • Capacitors

Ex.: CE	04W	1H	2R2	M	BP
Type	Shape and performance	Dielectric	Capacity	Allowable error	Others
CE : Aluminum foil electrolytic	0J : 6.3V	F : ±1%	HS : High stability type		
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type		
CS : Tantalum electrolytic	1C : 16V	J : ±5%	HR : Ripple-resistant type		
CQ : Film	1E : 25V	K : ±10%	DL : For charge and discharge		
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high frequency		
CC : Ceramic	1H : 50V	Z : +80%	U : UL part		
CP : Oil	2A : 100V	-20%	C : CSA part		
CM : Mica	2B : 125V	P : +100%	W : UL-CSA type		
CF : Metallized	2C : 160V	-0%	F : Lead wire forming		
CH : Metallized	2D : 200V	C : ±0.25pF			
	2E : 250V	D : ±0.5pF			
	2H : 500V	E : ± Others			
	2J : 630V				

## \* Capacity (electrolyte only)

2 2 2 ⇒ 2200μF  
 Indicates number of zeros after effective number.  
 2-digit effective number.

• Units: μF.

2 R 2 ⇒ 2.2μF  
 1-digit effective number.  
 2-digit effective number, decimal point indicated by R.

• Units: μF.

## \* Capacity (except electrolyte)

2 2 2 ⇒ 2200pF = 0.0022μF  
 (More than 2) — Indicates number of zeros after effective number.  
 2-digit effective number.

• Units: pF.

2 2 1 ⇒ 220pF  
 (0 or 1) — Indicates number of zeros after effective number.  
 2-digit effective number.

• Units: pF.

\* When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

## PARTS LIST OF P.W.B. UNIT ASS'Y

1U-2938C MAIN UNIT ASS'Y (PMA-925R)

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			

IC201	263 0322 004	IC BA4558	Linear ope. amp
IC202	263 0609 002	IC NJM2068DDC	
IC401,402	263 0930 001	IC μPC5023CS-064	Bias IC
IC403,404	262 0874 009	IC TLP521-1(BL)	
IC701	268 0073 905	IC ICP-N15	IC protector
TR301~304	271 0094 919	Transistor 2SA970(BL)	
TR305,306	271 0131 924	Transistor 2SA988(E/F)	
TR307~312	273 0235 923	Transistor 2SC1841(E/F)	
TR313,314	273 0303 910	Transistor 2SC1740S(S)	
TR315,316	275 0069 001	Transistor 2SK215	N type FET
TR317,318	275 0068 002	Transistor 2SJ78	P type FET
TR323	271 0131 924	Transistor 2SA988(E/F)	
TR401,402	271 0280 901	Transistor 2SA1038S(S/E)	
TR403,404	273 0281 906	Transistor 2SC2705(O)/(Y)	
TR405,406	273 0432 904	Transistor 2SC2389S(S/E)	
TR407,408	271 0168 900	Transistor 2SA1145(O)/(Y)	
TR601,602	273 0235 923	Transistor 2SC1841(E/F)	
TR603~605	273 0303 910	Transistor 2SC1740S(S)	
TR606	271 0192 905	Transistor 2SA933S(S)	
TR607	273 0235 923	Transistor 2SC1841(E/F)	
TR608	271 0094 935	Transistor 2SA970(BL/GR)	
TR609	272 0107 906	Transistor 2SB1328(P)	
TR610~612	273 0235 923	Transistor 2SC1841(E/F)	
TR615	273 0303 910	Transistor 2SC1740S(S)	
TR616	272 0107 906	Transistor 2SB1328(P)	
TR701	274 0168 006	Transistor 2SD2395(E/F)	
TR702	272 0129 007	Transistor 2SB1566(E/F)	
TR703	271 0280 901	Transistor 2SA1038S(S/E)	
TR704,705	273 0432 904	Transistor 2SC2389S(S/E)	
TR706	273 0303 910	Transistor 2SC1740S(S)	
TR801~806	273 0235 923	Transistor 2SC1841(E/F)	
D101~106	276 0616 907	Diode 1SS252	
D301~306	276 0616 907	Diode 1SS252	
D351,352	276 0616 907	Diode 1SS252	
D401~414	276 0616 907	Diode 1SS252	
D601,602	276 0616 907	Diode 1SS252	
D701	276 0553 905	Diode 1SR35-200A	

Ref. No.	Part No.	Part Name	Remarks
<b>RESISTORS GROUP</b>			
VR202	211 0798 103	Variable resistor 100kohm	Balance
VR203	211 0834 012	Variable resistor 10kohm	Treble
VR204	211 0834 009	Variable resistor 30kohm	Bass
△R116	244 0157 003	Metal oxide 2.2kohm 3W	RS14B3F22JNBS(S)
△R162	244 0157 003	Metal oxide 2.2kohm 3W	RS14B3P22JNBS(S)
△R309~312	241 2360 963	Carbon film 2.2kohm 1/4W	RD14B2E22JNBS
△R317,318	241 2377 963	Carbon film 120ohm 1/4W	RD14B2E12JNBS
△R319~322	241 2377 976	Carbon film 130ohm 1/4W	RD14B2E13JNBS
△R323,324	241 2315 967	Fusible resistor 68ohm 1/4W	RD14B2E68GFRS
△R325,326	241 2380 950	Carbon film 2kohm 1/4W	RD14B2E20JNBS
△R327,328	241 2379 929	Carbon film 560ohm 1/4W	RD14B2E56JNBS
△R331,332	241 2378 929	Carbon film 220ohm 1/4W	RD14B2E22JNBS
△R333~336	244 2043 982	Metal oxide 0.22ohm 1W	RS14B3AP2JNBS(S)
△R345~348	244 2043 982	Metal oxide 0.22ohm 1W	RS14B3AP2JNBS(S)
△R351	241 2379 987	Carbon film 1kohm 1/4W	RD14B2E102JNBS
△R401,402	241 2379 916	Carbon film 510ohm 1/4W	RD14B2E51JNBS
△R403,404	241 2378 946	Carbon film 270ohm 1/4W	RD14B2E27JNBS
△R409,410	241 2379 916	Carbon film 510ohm 1/4W	RD14B2E51JNBS
△R413,414	241 2378 946	Carbon film 270ohm 1/4W	RD14B2E27JNBS
△R441~444	241 2379 967	Carbon film 1kohm 1/4W	RD14B2E102JNBS
△R601~604	241 2380 950	Carbon film 2kohm 1/4W	RD14B2E202JNBS
△R631	244 2069 018	Metal oxide 3kohm 5W	RS14B3H302JNBS(S)
△R633	244 2069 018	Metal oxide 3kohm 5W	RS14B3H302JNBS(S)
△R635	244 2069 018	Metal oxide 3kohm 5W	RS14B3H302JNBS(S)
△R711,712	244 2043 908	Metal oxide 680ohm 1W	RS14B3A681JNBS(S)
△R713	241 2387 940	Carbon film 4.7ohm 1/4W	RD14B2E4R7JNBS
△R716	241 2387 940	Carbon film 4.7ohm 1/4W	RD14B2E4R7JNBS
△R717,718	244 2043 908	Metal oxide 680ohm 1W	RS14B3A681JNBS(S)

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
<b>CAPACITORS GROUP</b>							
C111,112	253 4444 907	Ceramic cap. 220pF/50V	CC45SL1H221J	C701,702	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
C207,208	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M	C703,704	254 4261 921	Electrolytic 100μF/50V	CE04W1H101M
C209,210	253 4537 982	Ceramic cap. 56pF/50V	CC45SL1H560J	C705,706	254 6206 007	Electrolytic 12000μF/63V	CE68W1J123MC(DL)
C213,214	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M	C707	256 1042 903	Metalized 0.1μF/250V	CF93A2E104K
C215,216	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M	C708	254 4263 916	Electrolytic 0.22μF/100V	CE04W2AR22M
C217,218	255 1265 994	Film cap. 0.033μF/50V	CQ93M1H333J(B)	<b>OTHERS PARTS GROUP</b>			
C219,220	254 4260 919	Electrolytic 0.22μF/50V	CE04W1HR22M				
C221,222	254 4260 906	Electrolytic 0.1μF/50V	CE04W1H0R1M	SW101	—	(P.W.board)	(1)
C223,224	254 4260 935	Electrolytic 0.47μF/50V	CE04W1HR47M	SW202	212 0336 005	Rotary switch	Rec out sel. 1
C225,226	254 4260 922	Electrolytic 0.33μF/50V	CE04W1HR33M	RL101~106	212 1161 004	1P push switch	Surce direct 1
C227,228	256 1034 953	Metalized 0.068μF/50V	CF93A1H683J		214 0178 007	Relay(MR62-12USRY)	6
C229,230	255 1265 994	Film cap. 0.033μF/50V	CQ93M1H333J(B)		204 8266 008	4P pin jack(S-GND)	for TAPE 2
C250,251	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M		204 8278 009	6P pin jack(S-GND)	for INPUTS 1
C252,253	255 4237 929	Film cap. 56pF/100V	CQ93P2A560J(NH)				
C256,257	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M				
C258,259	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M				
C261	253 1181 917	Ceramic cap. 0.022μF/50V	CK45F1H223Z				
C262,263	255 1265 936	Film cap. 0.01μF/50V	CQ93M1H103J(B)				
C301,302	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M				
C303,304	255 4235 918	Film cap. 100pF/100V	CQ93P2A101J(NH)				
C305,306	255 6177 980	Film cap. 220pF/50V	CQ09S1H221J(STM)				
C307,308	255 1264 908	Film cap. 1000pF/50V	CQ93M1H102J(B)				
C309,310	254 4252 082	Electrolytic 2200μF/10V	CE04W1A222M				
C311,312	255 4237 929	Film cap. 56pF/100V	CQ93P2A560J(NH)				
C317,318	253 4470 900	Ceramic cap. 10pF/500V	CC45SL2H100D				
C319~322	254 4261 921	Electrolytic 100μF/50V	CE04W1H101M				
C329~332	254 4262 904	Electrolytic 4.7μF/63V	CE04W1J4R7M				
C339	254 4262 755	Electrolytic 100μF/63V	CE04W1J101MC				
C361,362	253 4490 906	Ceramic cap. 68pF/500V	CC45SL2H680J				
C363,364	253 4470 900	Ceramic cap. 10pF/500V	CC45SL2H100D				
C371,372	255 6178 947	Film cap. 680pF/50V	CQ09S1H681J(STM)				
C401,402	254 4261 918	Electrolytic 47μF/50V	CE04W1H470M				
C403,404	254 3056 959	Electrolytic 10μF/50V	CE04D1H100MBP (Bipole)				
C405,406	254 4260 993	Electrolytic 22μF/50V	CE04W1H220M				
C407,408	255 1264 908	Film cap. 1000pF/50V	CQ93M1H102J(B)				
C409,410	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M				
C411,412	255 1265 936	Film cap. 0.01μF/50V	CQ93M1H103J(B)				
C413~416	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J				
C451,452	253 1179 987	Ceramic cap. 470pF/50V	CK45B1H471K				
C601,602	255 1265 936	Film cap. 0.01μF/50V	CQ93M1H103J(B)				
C603	254 4250 945	Electrolytic 330μF/6.3V	CE04W0J331M				
C604	254 4252 930	Electrolytic 100μF/10V	CE04W1A101M				
C605	254 4252 901	Electrolytic 22μF/10V	CE04W1A220M				
C606	255 1265 978	Film cap. 0.022μF/50V	CQ93M1H223J(B)				

## 1U-2939A μ-COM UNIT ASS'Y (PMA-925R)

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>							
IC105	499 0150 008	IC SBX1610-52	Remote sensor	C809	254 4196 973	Electrolytic 4.7μF/50V	CE04W1H4R7M(SRA)
IC702	263 0793 002	IC NJM7806FA(S)	Regulator +6 V	C810	254 4196 944	Electrolytic 1μF/50V	CE04W1H010M(SRA)
IC801	262 1579 303	IC HD404304A13P	μ-com	C811	254 4196 928	Electrolytic 0.33μF/50V	CE04W1HR33M(SRA)
IC802	263 0476 002	IC LB1639	Motor driver	C812	256 1034 982	Metallized 0.12μF/50V	CF93A1H124J
IC803	263 0535 008	IC M51954AL	Reset IC	C901	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
IC901	263 0322 004	IC BA4558		C902	253 1181 917	Ceramic cap. 0.022μF/50V	CK45F1H223Z
TR707	274 0168 006	Transistor 2SD2395(E/F)		C905,906	253 1179 929	Ceramic cap. 150pF/50V	CK45B1H151K
TR807	271 0192 905	Transistor 2SA933S(S)		C907,908	253 1179 961	Ceramic cap. 330pF/50V	CK45B1H331K
TR808,809	273 0303 910	Transistor 2SC1740S(S)		C909,910	253 1179 903	Ceramic cap. 100pF/50V	CK45B1H101K
TR810	269 0046 906	Transistor DTA114ES	Built in resistor	C911,912	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
TR901~904	275 0038 045	Transistor 2SK369(BL)/(GR)-C	N type FET △VGS	C913,914	255 1251 937	Film cap. 3300pF/50V	CQ92M1H332J(MRZ)
D801~805	276 0616 907	Diode 1SS252		C915,916	254 4252 930	Electrolytic 100μF/10V	CE04W1A101M
D806	276 0553 905	Diode 1SR35-200A		C917,918	256 1034 953	Metallized 0.068μF/50V	CF93A1H683J
D807,808	276 0616 907	Diode 1SS252		C919,920	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
D901,902	276 0616 907	Diode 1SS252		C921,922	255 4223 959	Film cap. 0.018μF/50V	CQ92M1H183J(MRZ)
ZD704	276 0644 995	Zener diode MTZJ16A	16 V	C923,924	255 1264 911	Film cap. 1200pF/50V	CQ93M1H122J(B)
LD801	393 9559 904	LED SLR-56DUTB7		C925,926	253 1179 961	Ceramic cap. 330pF/50V	CK45B1H331K
LD802~807	393 9515 906	LED SLR-56VR70	Orange Red	C935	254 4252 930	Electrolytic 100μF/10V	CE04W1A101M
PH701	279 0034 041	Posistor PTH9M04BD222TS2F333		C936,937	254 4256 936	Electrolytic 47μF/25V	CE04W1E470M
<b>RESISTORS GROUP</b>							
△ R632	241 2387 940	Carbon film 4.7ohm 1/4W		<b>OTHERS PARTS GROUP</b>			
△ R636,937	241 2377 905	Carbon film 68ohm 1/4W		Q'ty			
<b>CAPACITORS GROUP</b>							
C709	254 4263 916	Electrolytic 0.22μF/100V	CE04W2AR22M	L901,902	—	(P.W.board)	(1)
C711	253 1181 904	Ceramic cap. 0.01μF/50V	CK45F1H103Z	XL801	235 9003 002	Inductor (150μH)	FTZ choke coil 2
C712,713	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M	SW801~806	399 9018 003	Resonator	CST4.0 MGW 1
C714,715	253 1181 904	Ceramic cap. 0.01μF/50V	CK45F1H103Z	SW901	212 4789 001	Tact switch	6
C801	254 4213 937	Electrolytic 100μF/6.3V	CE04W0J101M(SRA)	204 8413 000	1P push swtch	MM/MC 1	
C802	253 1181 917	Ceramic cap. 0.022μF/50V	CK45F1H223Z	415 0309 013	2P pin jack(C-GND)	PHONO 1	
C803	254 4213 937	Electrolytic 100μF/6.3V	CE04W0J101M(SRA)		P.V.C.tube L=10	for PH01 2	
C805	254 4213 937	Electrolytic 100μF/6.3V	CE04W0J101M(SRA)				
C806	254 6190 906	Electrolytic 330μF/6.3V	CE04W0J331M(SRA)				
C807	259 0007 003	Back up cap. 8200μF/5.5V	SB CAP==822=				
C808	253 1181 917	Ceramic cap. 0.022μF/50V	CK45F1H223Z				

## 1U-2940C VOLUME UNIT ASS'Y (PMA-925R)

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
TR617,618	273 0235 923	Transistor 2SC1841(E/F)	
D001	276 0616 907	Diode 1SS252	
D441-444	276 0616 907	Diode 1SS252	
D610-612	276 0616 907	Diode 1SS252	
<b>RESISTORS GROUP(Not included carbon film ±5%, 1/4W)</b>			
VR201	211 0869 003	Variable resistor 30kohm	Main volume
△R341,342	244 2043 982	Metal oxide 0.22ohm 1W	RS14B3AR22JNBS(S)
△R501,502	244 2043 937	Metal oxide 10ohm 1W	RS14B3A100JNBS(S)
△R505-508	244 2050 933	Metal oxide 180ohm 1W	RS14B3A181JNBS(S)
△R652	244 0157 003	Metal oxide 2.2kohm 3W	RS14B3F222JNB
△R653	244 2069 018	Metal oxide 3kohm 5W	RS14B3H302JNB(S)
△R654	244 2069 005	Metal oxide 2.4kohm 5W	RS14B3H242JNB(S)
△R655	244 2069 018	Metal oxide 3kohm 5W	RS14B3H302JNB(S)
△R656	244 2069 005	Metal oxide 2.4kohm 5W	RS14B3H242JNB(S)
△R660	244 0157 003	Metal oxide 2.2kohm 3W	RS14B3F222JNB
<b>CAPACITORS GROUP</b>			
△C002	253 8003 713	Ceramic cap. 4700pF/400V AC	CK45E2GAC472MC
C203,204	254 4254 909	Electrolytic 10μF/16V	CE04W1C100M
C205	255 1265 936	Film cap. 0.01μF/50V	CQ93M1H103J(B)
C501,502	256 1034 979	Metallized 0.1μF/50V	CF93A1H104J
<b>OTHERS PARTS GROUP</b>			Q'ty
	—	(P.W.board)	(1)
L301,302	235 0104 007	Inductor(1mH)	2
	202 0022 008	Fuse holder	for F001,002
			4
△F001	206 1015 032	Fuse(2.5A)	1
△F002	206 1015 029	Fuse(1AT)	1
	513 0654 017	Fuse label (T. 25A)	for F001
△	415 0299 000	Capacitor cover	for C002
△RL001	214 0142 004	Relay(TV-5)	1
RL601,602	214 0129 001	Relay(DH2TU)	for SP-A,B
RL603	214 0178 007	Relay(MR62-12USRY)	for Headphone
SW501	212 1162 003	3P push switch	for Speaker ON-OFF
	205 0484 001	8P speaker terminal	for Speaker
	204 8503 004	:Head phone jack	JA501
△	203 3950 002	3P AC outlet	AOL-1
△	205 0692 000	2P wrapping terminal	1

## 1U-2938 MAIN UNIT ASS'Y (PMA-725R)

1U-2938A : Europe model

1U-2938B : U.K. model

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
IC201	263 0322 004	IC BA4558	Linear ope. amp
IC202	263 0609 002	IC NJM2068DDC	
IC401,402	263 0930 001	IC μPC5023CS-064	Bias IC
IC403,404	262 0874 009	IC TLP521-1(BL)	
IC701	268 0073 905	IC ICP-N15	IC protector
TR301~304	271 0094 919	Transistor 2SA970(BL)	
TR305,306	271 0131 924	Transistor 2SA988(E/F)	
TR307~312	273 0235 923	Transistor 2SC1841(E/F)	
TR313,314	273 0303 910	Transistor 2SC1740S(S)	
TR323	271 0131 924	Transistor 2SA988(E/F)	
TR401,402	271 0280 901	Transistor 2SA1038S(S/E)	
TR403,404	273 0281 906	Transistor 2SC2705(O)/(Y)	
TR405,406	273 0432 904	Transistor 2SC2389S(S/E)	
TR407,408	271 0168 900	Transistor 2SA1145(O)/(Y)	
TR601,602	273 0235 923	Transistor 2SC1841(E/F)	
TR603~605	273 0303 910	Transistor 2SC1740S(S)	
TR606	271 0192 905	Transistor 2SA933S(S)	
TR607	273 0235 923	Transistor 2SC1841(E/F)	
TR608	271 0094 935	Transistor 2SA970(BL/GR)	
TR609	272 0107 906	Transistor 2SB1328(P)	
TR610	273 0235 923	Transistor 2SC1841(E/F)	
TR611	273 0235 923	Transistor 2SC1841(E/F)	
R612	273 0235 923	Transistor 2SC1841(E/F)	
TR615	273 0303 910	Transistor 2SC1740S(S)	
TR616	272 0107 906	Transistor 2SB1328(P)	
TR701	274 0168 006	Transistor 2SD2395(E/F)	
TR702	272 0129 007	Transistor 2SB1566(E/F)	
TR703	271 0280 901	Transistor 2SA1038S(S/E)	
TR704,705	273 0432 904	Transistor 2SC2389S(S/E)	
TR706	273 0303 910	Transistor 2SC1740S(S)	
TR801~806	273 0235 923	Transistor 2SC1841(E/F)	
D101~106	276 0616 907	Diode 1SS252	
D301~306	276 0616 907	Diode 1SS252	
D351,352	276 0616 907	Diode 1SS252	
D401~414	276 0616 907	Diode 1SS252	
D601,602	276 0616 907	Diode 1SS252	
D701	276 0553 905	Diode 1SR35-200A	

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
<b>CAPACITORS GROUP</b>							
D702	276 0338 007	Diode S4VB20F	Bridge	C111,112	253 4444 907	Ceramic cap. 220pF/50V	CC45SL1H221J
D703,704	276 0553 905	Diode 1SR35-200A		C207,208	254 4260 980	Electrolytic 10μF/50V	CE04W1H100M
ZD401~404	276 0643 954	Zener diode MTZJ3.9A	3.9 V	C209,210	253 4537 982	Ceramic cap. 56pF/50V	CC45SL1H560J
ZD601	276 0644 911	Zener diode MTZJ7.5A	7.5 V	C213,214	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
ZD701,702	276 0645 978	Zener diode MTZJ36A	36 V	C215,216	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
ZD703	276 0644 911	Zener diode MTZJ7.5A	7.5 V	C217,218	255 1265 994	Film cap. 0.033μF/50V	CQ93M1H333J(B)
ZD705,706	276 0645 907	Zener diode MTZJ18A	18 V	C219,220	254 4260 919	Electrolytic 0.22μF/50V	CE04W1HR22M
SC601	279 0016 904	Thyristor SF0R1A42		C221,222	254 4260 906	Electrolytic 0.1μF/50V	CE04W1H0R1M
<b>RESISTORS GROUP</b>							
VR202	211 0798 103	Variable resistor 100kohm	Balance	C223,224	254 4260 935	Electrolytic 0.47μF/50V	CE04W1HR47M
VR203	211 0834 012	Variable resistor 10kohm	Treble	C225,226	254 4260 922	Electrolytic 0.33μF/50V	CE04W1HR33M
VR204	211 0834 009	Variable resistor 30kohm	Bass	C227,228	256 1034 953	Metalized 0.068μF/50V	CF93A1H683J
△R115,116	244 2051 974	Metal oxide 1kohm 1W	RS14B3A102JNBS(S)	C229,230	255 1265 994	Film cap. 0.033μF/50V	CQ93M1H333J(B)
△R162,163	244 2051 974	Metal oxide 1kohm 1W	RS14B3A102JNBS(S)	C250,251	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
△R309~312	241 2380 963	Carbon film 2.2kohm 1/4W	RD14B2E222JNBS	C252,253	255 4237 929	Film cap. 56pF/100V	CQ93P2A560J(NH)
△R317,318	241 2377 963	Carbon film 120ohm 1/4W	RD14B2E121JNBS	C256,257	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
△R319~322	241 2377 976	Carbon film 130ohm 1/4W	RD14B2E131JNBS	C258,259	254 4260 948	Electrolytic 1μF/50V	CE04W1H010M
△R323,324	241 2315 967	Fusible resistor 68ohm 1/4W	RD14B2E680GFRS	C261	253 1181 917	Ceramic cap. 0.022μF/50V	CK45F1H22Z
△R325,326	241 2380 950	Carbon film 2kohm 1/4W	RD14B2E202JNBS	C262,263	255 1265 936	Film cap. 0.01μF/50V	CQ93M1H103J(B)
△R327,328	241 2379 929	Carbon film 560ohm 1/4W	RD14B2E561JNBS	C301,302	254 4254 941	Electrolytic 100μF/16V	CE04W1C101M
△R333~336	244 2043 982	Metal oxide 0.22ohm 1W	RS14B3AR22JNBS(S)	C303,304	255 4235 918	Film cap. 100pF/100V	CQ93P2A101J(NH)
△R345~348	244 2043 982	Metal oxide 0.22ohm 1W	RS14B3AR22JNBS(S)	C305,306	255 6177 980	Film cap. 220pF/50V	CQ09S1H221J(STM)
△R351	241 2379 987	Carbon film 1kohm 1/4W	RD14B2E102JNBS	C307,308	255 1264 908	Film cap. 1000pF/50V	CQ93M1H102J(B)
△R401,402	241 2379 916	Carbon film 510ohm 1/4W	RD14B2E511JNBS	C309,310	254 4252 082	Electrolytic 2200μF/10V	CE04W1A222M
△R403,404	241 2378 946	Carbon film 270ohm 1/4W	RD14B2E271JNBS	C311,312	255 4237 929	Film cap. 56pF/100V	CQ93P2A561J(NH)
△R409,410	241 2379 916	Carbon film 510ohm 1/4W	RD14B2E511JNBS	C317,318	253 4470 900	Ceramic cap. 10pF/500V	CC45SL2H10OD
△R413,414	241 2378 946	Carbon film 270ohm 1/4W	RD14B2E271JNBS	C319~322	254 4261 921	Electrolytic 100μF/50V	CE04W1H101M
△R441~444	241 2379 987	Carbon film 1kohm 1/4W	RD14B2E102JNBS	C329~332	254 4262 904	Electrolytic 4.7μF/63V	CE04W1J4R1M
△R601~604	241 2380 950	Carbon film 2kohm 1/4W	RD14B2E202JNBS	C339	254 4262 755	Electrolytic 100μF/63V	CE04W1J101MC
△R631~633	244 2051 990	Metal oxide 4.7kohm 1W	RS14B3A472JNBS(S)	C371,372	255 6178 947	Film cap. 680pF/50V	CQ09S1H68J(STM)
△R634,635	244 2052 957	Metal oxide 5.6kohm 1W	RS14B3A562JNBS(S)	C401,402	254 4261 918	Electrolytic 47μF/50V	CE04W1H471M
△R681	244 2052 957	Metal oxide 5.6kohm 1W	RS14B3A562JNBS(S)	C403,404	254 3056 959	Electrolytic 10μF/50V	CE04D1H1001BP (Bipole)
△R711,712	244 2043 908	Metal oxide 680ohm 1W	RS14B3A681JNBS(S)	C405,406	254 4260 993	Electrolytic 22μF/50V	CE04W1H221M
△R713	241 2387 940	Carbon film 4.7ohm 1/4W	RD14B2E4R7JNBS	C407,408	255 1264 908	Film cap. 1000pF/50V	CQ93M1H101J(B)
△R716	241 2387 940	Carbon film 4.7ohm 1/4W	RD14B2E4R7JNBS	C409,410	254 4260 948	Electrolytic 1μF/50V	CE04W1H011M
△R717,718	244 2043 908	Metal oxide 680ohm 1W	RS14B3A681JNBS(S)	C411,412	255 1265 936	Film cap. 0.01μF/50V	CQ93M1H101J(B)
				C413~416	256 1034 979	Metalized 0.1μF/50V	CF93A1H104J
				C451,452	253 1179 987	Ceramic cap. 470pF/50V	CK45B1H471I
				C601,602	255 1265 936	Film cap. 0.01μF/50V	CQ93M1H101J(B)
				C603	254 4250 945	Electrolytic 330μF/6.3V	CE04W0J331II
				C604	254 4252 930	Electrolytic 100μF/10V	CE04W1A101M
				C605	254 4252 901	Electrolytic 22μF/10V	CE04W1A220M
				C606	255 1265 978	Film cap. 0.022μF/50V	CQ93M1H223J(B)
				C701,702	254 4260 948	Electrolytic 1μF/50V	CE04W1H010I
				C703,704	254 4261 921	Electrolytic 100μF/50V	CE04W1H101I

**1U-2939A μ-COM UNIT ASS'Y (PMA-725R)**

Ref. No.	Part No.	Part Name	Remarks
C705,706	254 6205 008	Electrolytic 10000μF/51V	CE68W==103MC(DL)
C707	256 1042 903	Metalized 0.1μF/250V	CF93A2E104K
C708	254 4263 916	Electrolytic 0.22μF/100V	CE04W2AR22M
<b>OTHERS PARTS GROUP</b>			Q'ty
	—	(P.W.board)	(1)
SW101	212 0336 005	Rotary switch	Rec out sel.
SW202	212 1161 004	1P push switch	Surce direct
RL101~106	214 0178 007	Relay(MR62-12USRY)	6
	204 8266 008	4P pin jack(S-GND)	for TAPE
	204 8278 009	6P pin jack(S-GND)	for INPUTS
			2
			1

**1U-2940 VOLUME UNIT ASS'Y**

#### **1U-2940A : Europe model**

1U-2940B : U.K. model

## EXPLODED VIEW OF CHASSIS AND CABINET : PMA-925R

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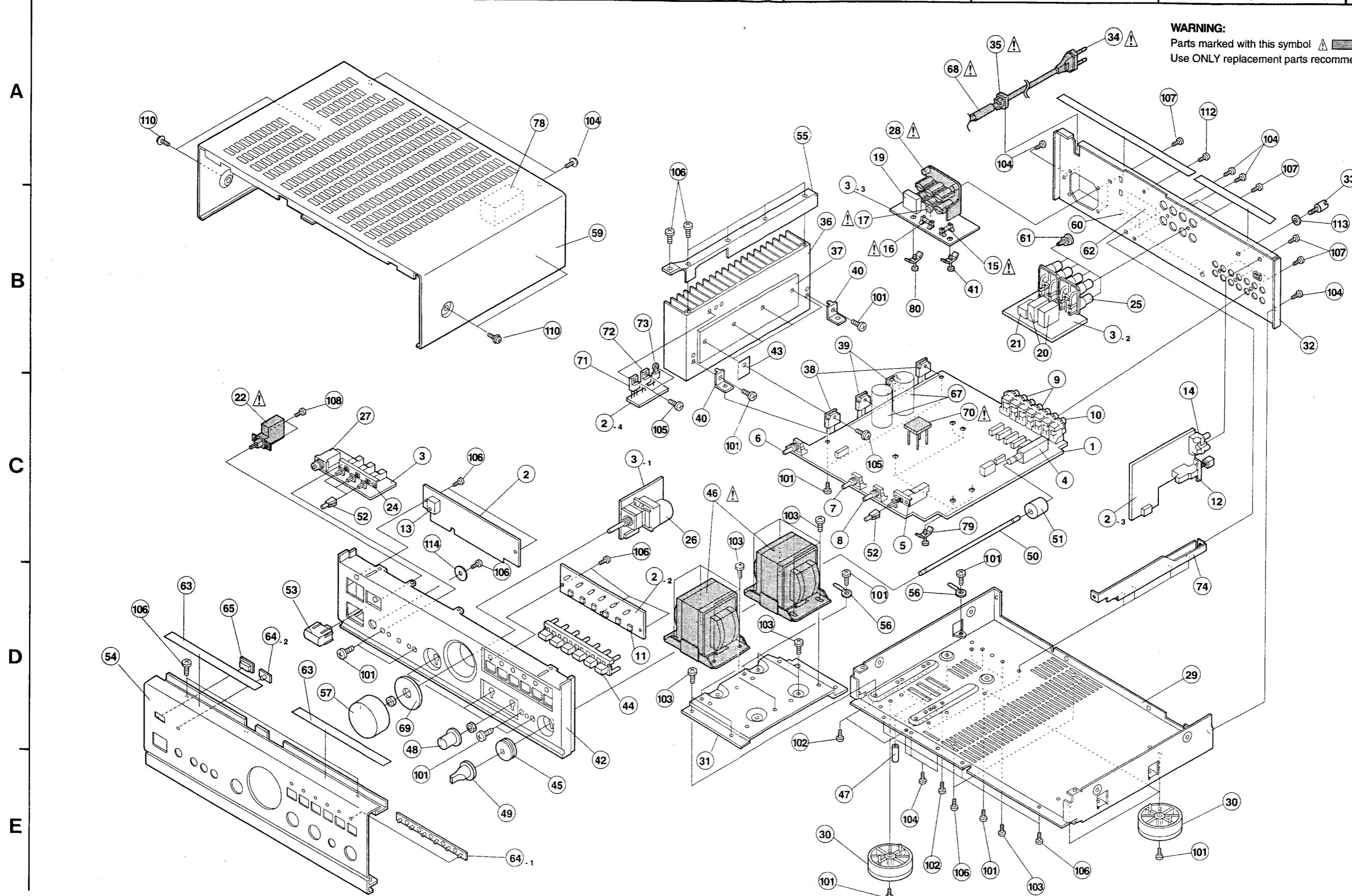
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## PARTS LIST OF EXPLODED VIEW PMA-925R

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
● 1	1U-2938 C	Main unit Ass'y		1s	47	462 0094 007	Screw tube		2
● 2	1U-2939 A	M-com unit Ass'y		1s	48	112 0646 000	:Knob(S)	Black model	3
2-1	—	M-com unit	(1)		48	112 0646 013	:Knob(S)	Gold model	3
2-2	—	LED unit	(1)		49	112 0641 102	:Fuji knob	Black model	1
2-3	—	Phono unit	(1)		49	112 0641 115	:Fuji knob	Gold model	1
2-4	—	Supply unit	(1)		50	112 0784 001	Volume knob joint		1
● 3	1U-2940 C	Volume unit Ass'y		1s	51	112 0785 000	Volume knob joint(B)		1
3-1	—	Volume unit	(1)		52	113 1745 107	:Push button(Round)	Black model	4
3-2	—	Speaker unit	(1)		52	113 1745 110	:Push button(Round)	Gold model	4
3-3	—	AC outlet unit	(1)		53	113 1738 101	:Power button	Black model	1
3-4	—	Speaker sel.unit	(1)		53	113 1738 114	:Power button	Gold model	1
4	212 0336 005	Rotary switch	SW101 Rec out sel.	1	● 54	144 2509 207	Front panel	Black model	1
5	212 1161 004	1P push switch	SW202 S.Direct	1	54	144 2509 210	Front panel	Gold model	1
6	211 0798 103	Variable resistor 100kohm	VR202 Balance	1	● 55	412 4136 005	Radiator bracket		1
7	211 0834 009	Variable resistor 30kohm	VR204 Bass	1	56	445 0048 003	Cord holder L=76		3
8	211 0834 012	Variable resistor 10kohm	VR203 Treble	1	57	112 0789 006	Volume knob Ass'y		1
9	204 8266 008	4P pin jack(S-GND)	for TAPE	2	57	112 0789 019	Volume knob Ass'y	Gold model	1
10	204 8278 009	6P pin jack(S-GND)	for INPUTS	1	★ 58	445 8004 007	Wire clammer		18
11	212 4789 001	Tact switch	SW801-806	6	● 59	102 0521 128	:Top cover	Black model	1
12	212 1099 008	1P push switch	SW901 MM/MC	1	59	102 0521 131	:Top cover	Gold model	1
13	499 0150 008	Remote sensor SBX1610-52	IC105	1	60	513 2444 005	Label (China)	Puton rear panel	1
14	204 8413 000	2P pin jack(C-GND)	for PHONO	1	61	477 0096 007	Push rivet		8
▲ 15	206 1015 032	Fuse (2.5A)	F001	1	62	513 2433 003	Serial No. sheet		1
▲ 16	206 1015 029	Fuse (1AT)	F002	1	63	122 0219 007	Sheet	F/Panel,R/Panel	4
▲ 17	415 0299 000	Capacitor cover	for C002	1	64	143 0945 006	:Lens		1
18	—	—			64-1	—	:Lens		(1)
▲ 19	214 0142 004	Relay(TV-5)	RL001	1	64-2	—	:Lens		(1)
20	214 0129 001	Relay(DH2TU)	RL601,602	2	65	143 9181 007	:Remocon window		1
21	214 0178 007	Relay(MR62-12USRY)	RL101-106,603	7	★ 66	254 4252 082	Electrolytic cap. 2200μF/10V	C309,310	2
▲ 22	212 1030 009	Power switch(TV-5)	SW001	1	67	254 6206 007	Electrolytic cap. 12000μF/63V	C705,706	2
23	—	—			▲ 68	415 0305 017	P.V.C. tube	for AC cord	1
24	212 1162 003	3P push switch	SW501 Speaker ON-OFF	1	● 69	412 4135 006	Volume plate	Black model	1
25	205 0484 001	8P speaker terminal	for speaker	1	● 69	412 4135 019	Volume plate	Gold model	1
26	211 0869 003	Variable resistor 30kohm	VR201 Main volume	1	▲ 70	276 0424 005	Diode 1D4B42	D-702 Bridge	1
27	204 8503 004	:Head phone jack	JA501	1	71	272 0129 007	Transistor 2SB1566(E/F)	TR702	1
▲ 28	203 3950 002	3P AC outlet	ACL-1	1	72	263 0793 002	IC NJM7806FA(S)	IC702 Regulator +6V	1
● 29	411 1267 712	*Main chassis		1	73	279 0034 041	PTH94M04BD222TS2F333	PH701	1
30	104 0282 007	:Foot Ass'y		4	● 74	412 4156 001	Trans frame		1
● 31	441 1786 016	Trans bracket		1	75	—	—		
● 32	105 1203 004	Rear panel		1	76	—	—		
33	205 0071 016	Terminal Ass'y		1	77	146 1651 000	Side spacer		2
▲ 34	206 2063 009	AC cord with plug		1	78	461 0940 006	:Rubber form		1
▲ 35	445 0056 008	Cord bush		1	79	449 0138 025	Card spacer (L=31)		5
● 36	417 0503 132	Power radiator		1	80	449 0138 012	Card spacer (L=25)		1
37	417 0507 015	:CU plate		1	81	—	—		
38	273 0389 002	Transistor 2SC3855(O/P/Y)(Z)	TR319,320	2					
39	271 0240 006	Transistor 2SA1491(O/P/Y)(Z)	TR321,322	2					
● 40	412 4000 005	:P.W.B.bracket (A)		2					
41	449 0138 009	:Card spacer (L=12)		1					
● 42	146 1637 008	Inner panel	Black model	1					
● 42	146 1637 011	Inner panel	Gold model	1					
43	—	Mica sheet		4					
44	113 1739 003	:Functin button	Black model	1					
44	113 1739 016	:Functin button	Gold model	1					
45	—	—							
▲ 46	233 6207 009	Power transformer		2					

## PACKING &amp; ACCESSORIES

Ref. No.	Part No.	Part Name	Remarks	Q'ty
<b>SCREWS &amp; WASHERS</b>				
101	473 7002 018	Screw 3x8	CBTS(S)-Z	17
102	473 7004 016	Screw 4x6	CBTS(S)-Z	8
103	473 7004 029	Screw 4x10	CBTS(S)-Z	14
104	473 7015 018	Screw 3x8	CBTS(S)-B	11
105	473 8007 009	Cup screw 3x12		7
106	473 7508 017	Screw 3x10	CBTS(P)-B	18
107	477 0064 107	Fixing screw 3x10		10
108	473 7508 004	Screw 3x6	CBTS(P)-B	2
109	473 7500 044	Screw 3x8	CBTS(P)-B	2
110	477 0263 005	3P swelling screw	Black model	4
110	477 0263 018	3P swelling screw	Gold model	4
111	—	—		
112	473 7002 034	Screw 3x6	CBTS(S)-B	1
113	477 0018 001	Washer	P-87	1
114	475 1175 002	Washer		1
115	—	—		
151	GEN 3580	Envelope Sub. Ass'y		1s
151-1	505 8006 019	Envelope		(1)
151-2	511 2899 007	Operating instructions		(1)
151-3	399 0277 004	Remoto control unit		RC-176
151-4	—	Batteries		R6P/AA/SUM-3
151-5	515 0671 326	DENON service network		(1)
152	505 8092 010	Laminate envelope		1
153	503 1222 001	Cushion		2
154	502 0892 002	:Support pad		2
155	502 1227 006	:Sub cushion		1
156	501 1927 009	Carton case		1
157	513 2446 003	China label(E)		1
158	513 2447 002	China label(F)		1
159	513 9111 001	Color label (Gold)		Gold model only

## NOTE FOR PARTS LIST

- Part indicated with the mark "●" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.

## WARNING:

Parts marked with this symbol ▲ have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

## EXPLODED VIEW OF CHASSIS AND CABINET : PMA-725R

1

2

3

4

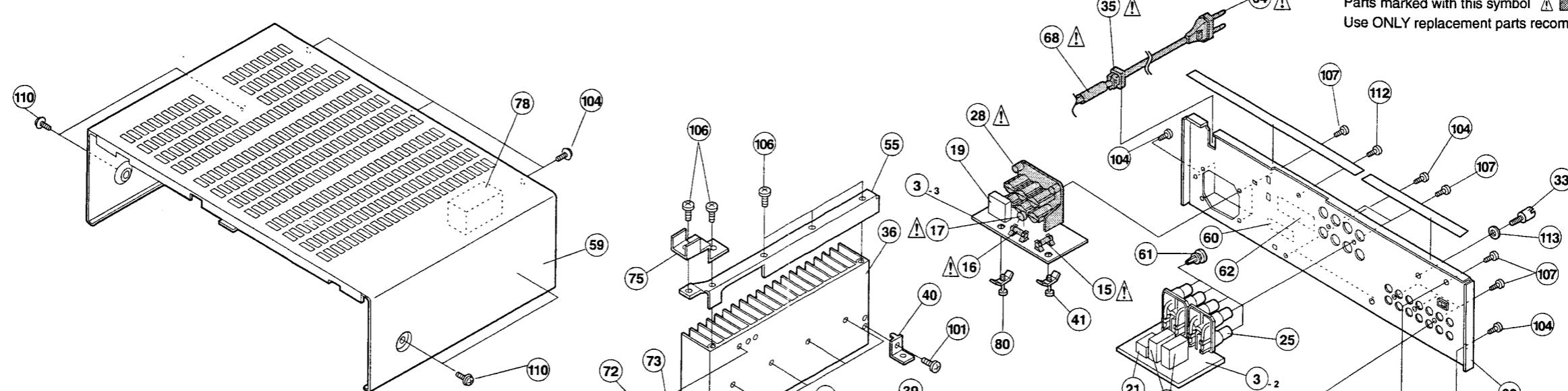
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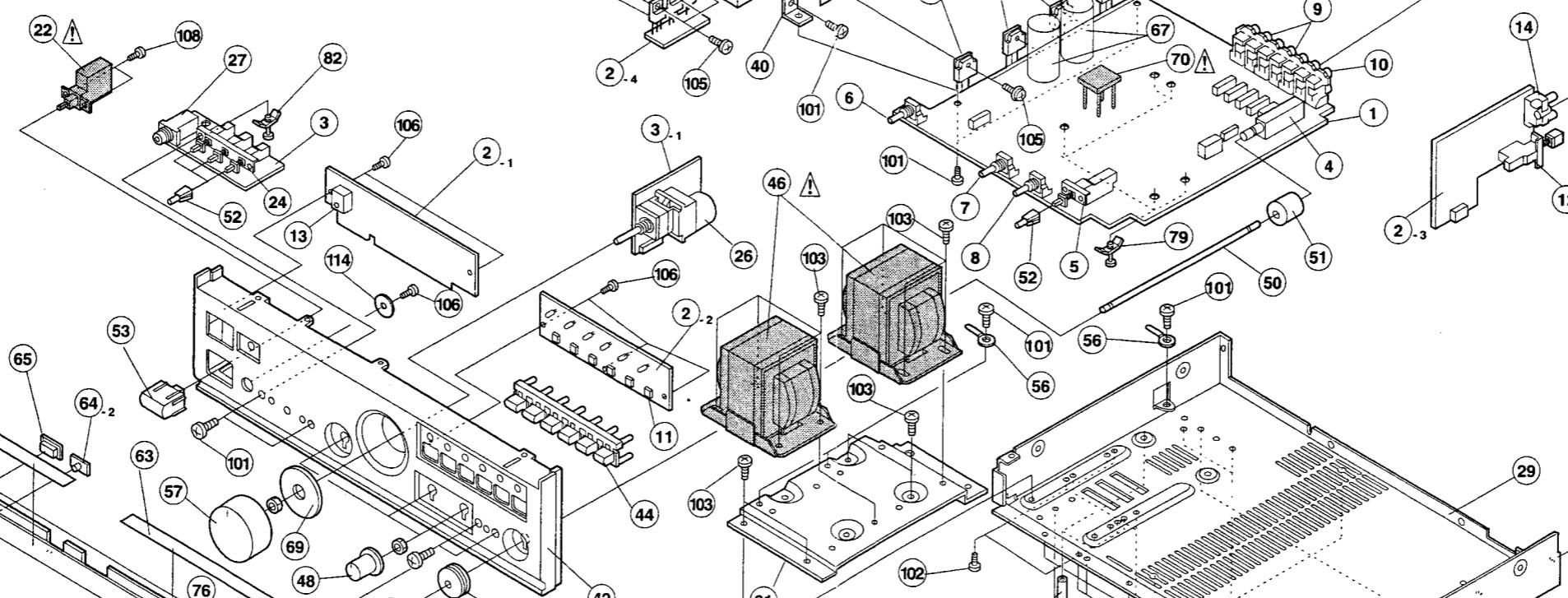
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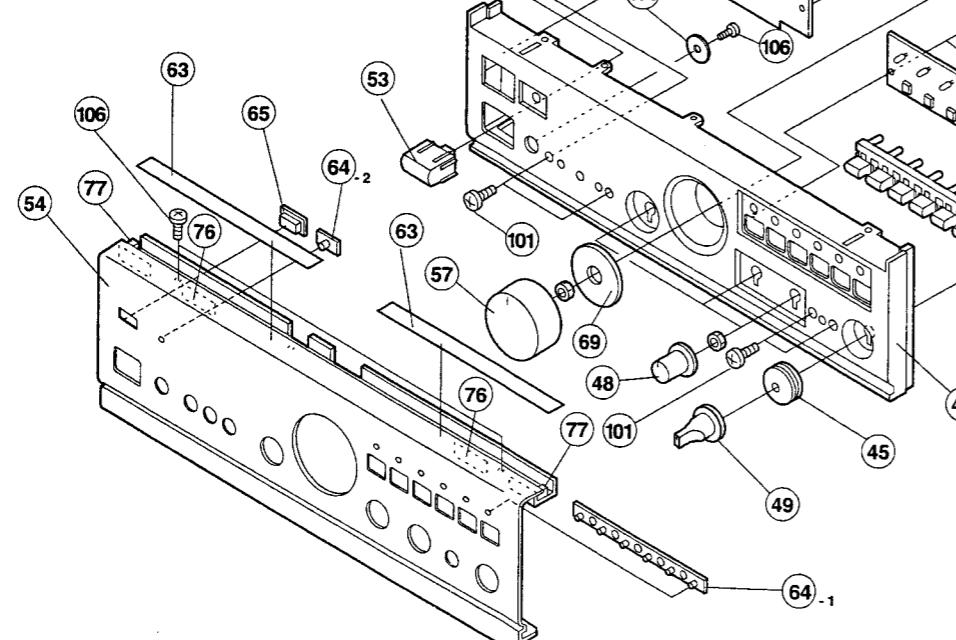
A



B



C



## PARTS LIST OF EXPLODED VIEW PMA-725R

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
① 1	1U-2938 A	Main unit Ass'y	Europe model	1s	④ 40	412 4000 005	:P.W.B.bracket (A)		2
① 1	1U-2938 B	Main unit Ass'y	U.K. model	1s	④ 41	—	—		
② 2	1U-2939 A	M-com unit Ass'y		1s	④ 42	146 1632 003	Inner panel	Black model	1
② 2-1	—	M-com unit		(1)	④ 42	146 1632 016	Inner panel	Gold model	1
② 2-2	—	LED unit		(1)	43	—	Mica sheet		4
② 2-3	—	Phono unit		(1)	44	113 1739 003	:Functin button	Black model	1
② 2-4	—	Supply unit		(1)	44	113 1739 016	:Functin button	Gold model	1
③ 3	1U-2940 A	Volume unit Ass'y	Europe model	1s	45	124 0032 057	Felt sheet		1
③ 3	1U-2940 B	Volume unit Ass'y	U.K. model	1s	⑥ 46	233 6203 003	Power transformer		2
③ 3-1	—	Volume unit		(1)	47	462 0094 007	Screw tube		2
③ 3-2	—	Speaker unit		(1)	48	112 0646 000	:Knob(S)	Black model	3
③ 3-3	—	AC outlet unit	Europe model only	(1)	48	112 0646 013	:Knob(S)	Gold model	3
③ 3-4	—	Speaker sel.unit		(1)	49	112 0641 102	:Fuji knob	Black model	1
③ 3-5	—	Power switch unit	U.K. model only	(1)	49	112 0641 115	:Fuji knob	Gold model	1
③ 3-6	—	AC unit	U.K. model only	(1)	50	112 0784 001	Volume knob joint		1
4	212 0336 005	Rotary switch	SW101 Recout sel.	1	51	112 0785 000	Volume knob joint (B)		1
5	212 1161 004	1P push switch	SW202 S.Direct	1	52	113 1745 107	:Push button(Round)	Black model	4
6	211 0798 103	Variable resistor 100kohm	VR202 Balance	1	52	113 1745 110	:Push button(Round)	Gold model	4
7	211 0834 009	Variable resistor 30kohm	VR204 Bass	1	53	113 1738 101	:Power button	Black model	1
8	211 0834 012	Variable resistor 10kohm	VR203 Treble	1	53	113 1738 114	:Power button	Gold model	1
9	204 8266 008	4P pin jack(S-GND)	for TAPE	2	④ 54	144 2507 306	Front panel	Black model	1
10	204 8278 009	6P pin jack(S-GND)	for INPUTS	1	④ 54	144 2507 319	Front panel	Gold model	1
11	212 4789 001	Tact switch	SW801-806	6	④ 55	412 4128 000	Radiator bracket		1
12	212 1099 008	1P push switch	SW901 MM/MC	1	56	445 0048 003	Cord holder L=76		3
13	499 0150 008	Remote sensor SBX1610-52	IC105	1	57	112 0744 009	Volume knob Assy	Black model	1
14	204 8413 000	2P pin jack(C-GND)	for PHONO	1	57	112 0744 012	Volume knob Assy	Gold model	1
⑤ 15	206 1015 061	Fuse (2 A)	F001	1	★ 58	445 8004 007	Wire clamer		18
⑤ 16	206 1015 029	Fuse (1AT)	F002	1	④ 59	102 0543 119	::Top cover	Black model	1
⑤ 17	415 0299 000	Capacitor cover		Europe model only	59	102 0543 122	::Top cover	Gold model	1
18	—	—	for C002	1	60	513 2444 005	Label (China)	Puton rear panel	1
⑤ 19	214 0142 004	Relay(TV-5)	RL001	1	61	477 0096 007	Push rivet		8
20	214 0129 001	Relay(DH2TU)	RL601,602	2	62	513 2433 003	Serial No. sheet	F/Panel,R/Panel	1
21	214 0178 007	Relay(MR62-12USRY)	RL101-106,603	7	63	122 0219 007	Sheet		4
⑤ 22	212 1030 009	Power switch(TV-5)	SW001	1	64	143 0945 006	:Lens		1
23	—	—			64-1	—	:Lens		(1)
24	212 1162 003	3P push switch	SW501 Speaker	1	64-2	—	:Lens		(1)
25	205 0484 001	8P speaker terminal	ON-OFF		65	143 9181 007	:Remocon window		1
26	211 0869 003	Variable resistor 30kohm	for speaker	1	★ 66	254 4252 082	Electrolytic cap. 2200μF/10V	C309,310	2
27	204 8503 004	:Head phone jack	VR201 Main volume	1	67	254 6205 008	Electrolytic cap. 10000μF/51V	C705,706	2
⑤ 28	203 3950 002	3P AC outlet	AOL-1	1	④ 68	415 0305 017	P.V.C. tube	for AC cord	1
⑤ 29	411 1267 712	*Main chassis		Europe model only	④ 69	412 4135 006	Volume plate	Black model	1
30	104 0282 007	*Foot Ass'y			69	412 4135 019	Volume plate	Gold model	1
⑤ 31	441 1786 003	Trans bracket			④ 70	276 0338 007	Diode S4VB20F	D702 Bridge	1
⑤ 32	105 1198 009	Rear panel	Europe model	1	71	272 0129 007	Transistor 2SB1566 (E/F)	TR702	1
⑤ 32	105 1198 012	Rear panel	U.K. model	1	72	263 0793 002	IC NJM7806FA (S)	IC702 Regulator+6V	1
33	205 0071 016	Terminal Ass'y		1	73	279 0034 041	PTH9M04BD222TS2F333	PH701	1
⑤ 34	206 2063 009	AC cord with plug	Europe model	1	74	—	—		
⑤ 34	206 2131 009	AC cord with plug	U.K. model	1	75	412 4159 008	:Support bracket		1
⑤ 35	445 0056 008	Cord bush		1	76	461 0942 004	Spacer (T=1)		2
⑤ 36	417 0503 129	Power radiator		1	77	146 1648 000	Side spacer		2
37	—	—			78	461 0941 005	:Rubber form		1
38	274 0173 004	Transistor 2SD2390(O/P/Y)	TR319,320	2	79	449 0138 012	:Card spacer (L=25)		5
39	272 0137 002	Transistor 2SB1560(O/P/Y)	TR321,322	2	80	449 0138 012	:Card spacer (L=25)		1
					81	449 0138 012	:Card spacer (L=25)		1
					82	449 0138 025	Card spacer (L=31)		1
					★ 83	513 2001 008	Insulate mark sheet	U.K. model only	1
					④ 84	202 0013 101	Fuse holder	U.K. model only	1

## PACKING &amp; ACCESSORIES

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
85	415 0785 006	Insulating plate	U.K. model only	1	④ 151	GEN 3580	Envelope Sub. Ass'y		1s
86	513 1390 008	Fuse label	U.K. model only	1	④ 151-1	505 8006 019	Envelope		(1)
④ 87	203 0150 009	Wite connector	U.K. model only	2	④ 151-2	511 2899 007	Operating instructions		(1)
88	415 0360 052	P.V.C. Tubing (19)	U.K. model onoy	1	④ 151-3	399 0277 004	Remoto control unit		RC-176
					④ 151-4	—	Batteries		R6P/AA/SUM-3
					④ 151-5	515 0671 326	DENON service network		(1)
					152	505 8092 010	Laminate envelope		1
					④ 153	503 1218 002	Cushion		2
					④ 154	502 0893 001	:L supporter		2
					④ 155	502 0894 000	:Pad (T=10)		1
					④ 156	501 1922 004	Carton case		1
					④ 157	513 2446 003	China label(E)		1
					④ 158	513 2447 002	China label(F)		1
					④ 159	513 9111 001	Color label (Gold)		Gold model only
					④ 160	504 0176 009	AC protect sheet		U.K. model only
					④ 161	503 1228 008	Support pad		U.K. model only

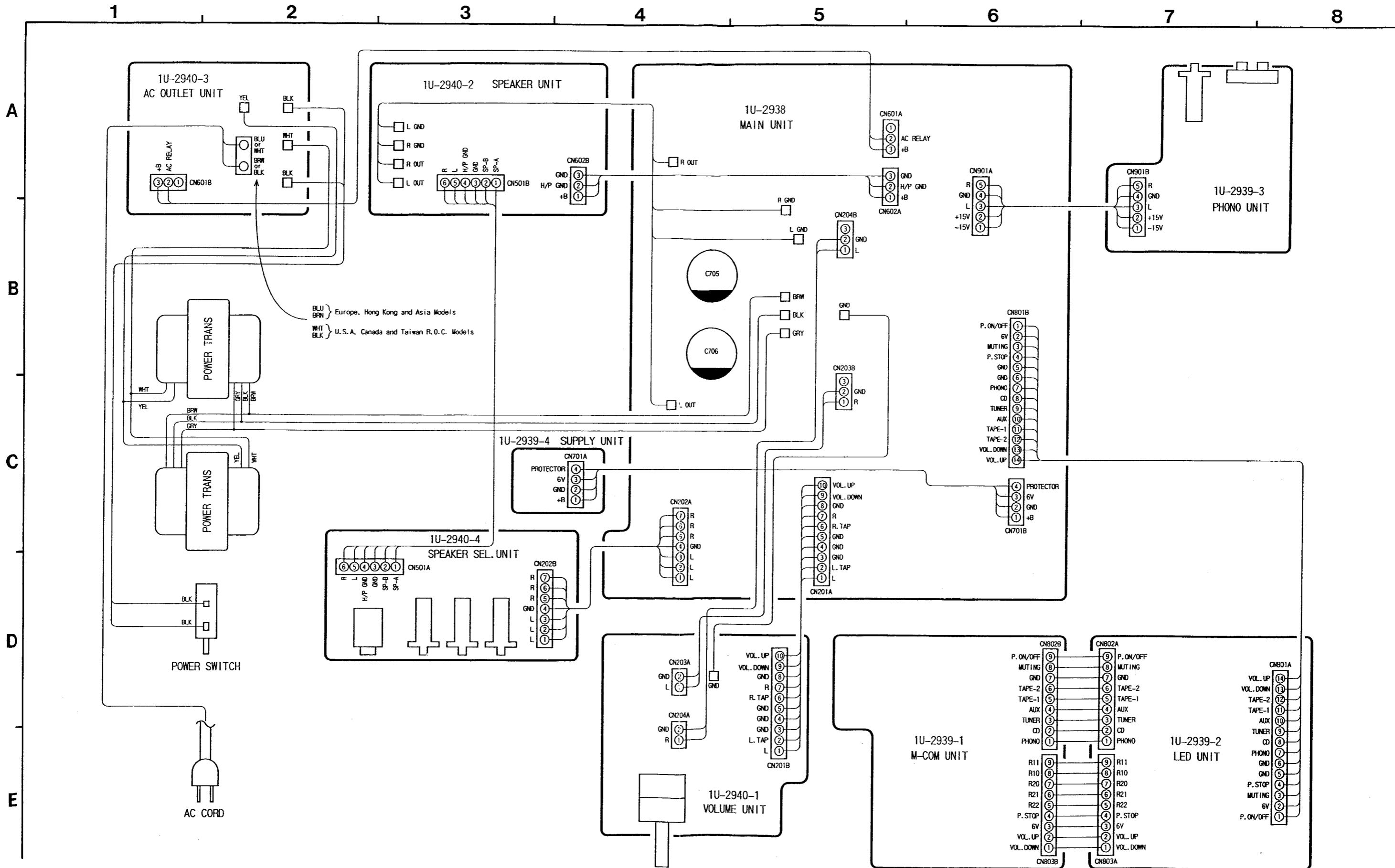
## NOTE FOR PARTS LIST

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- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.

## WARNING:

Parts marked with this symbol ▲ have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

## WIRING DIAGRAM



# SCHEMATIC DIAGRAM (1/4) : PMA-925R

1

2

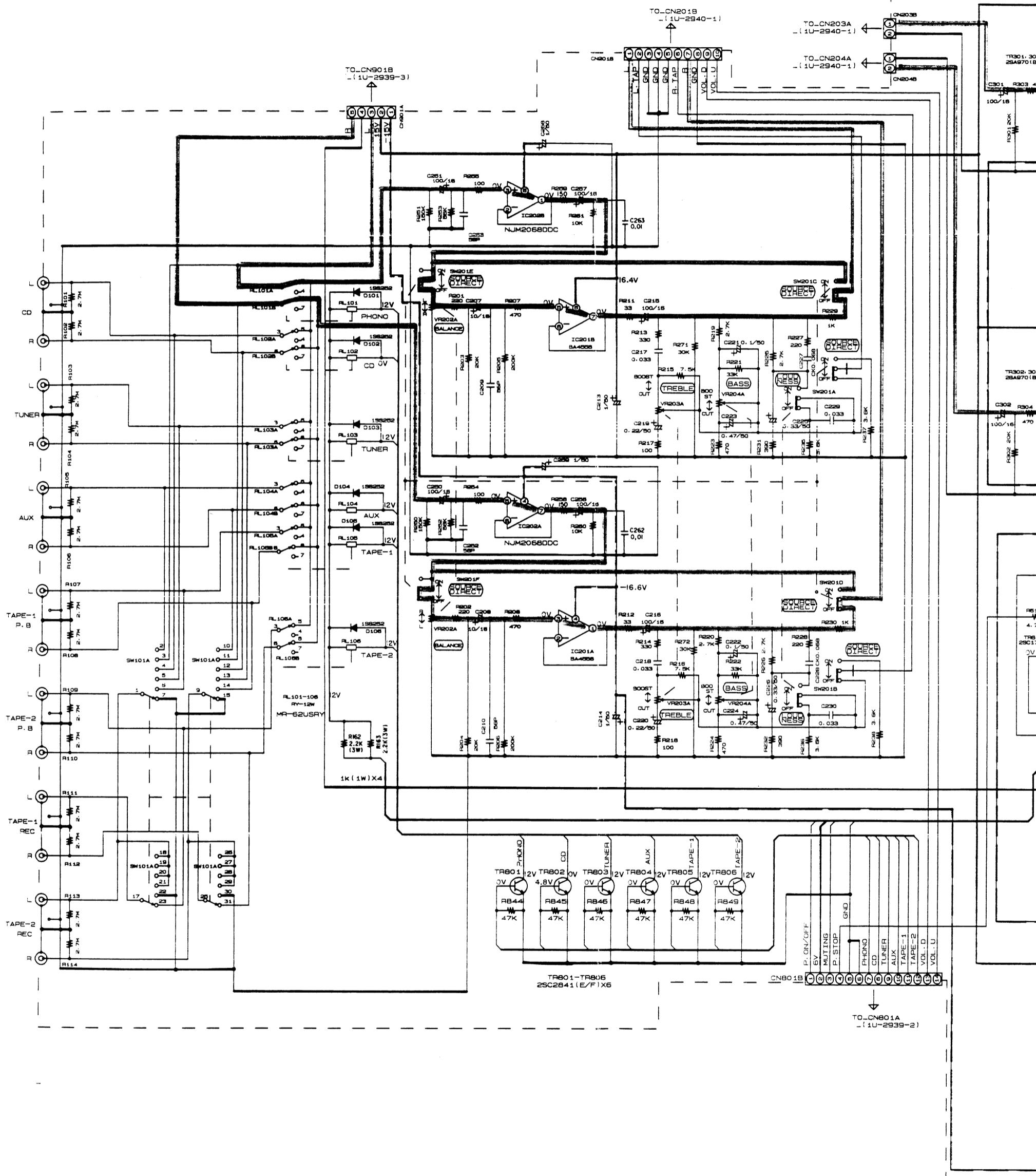
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1U-2938



6

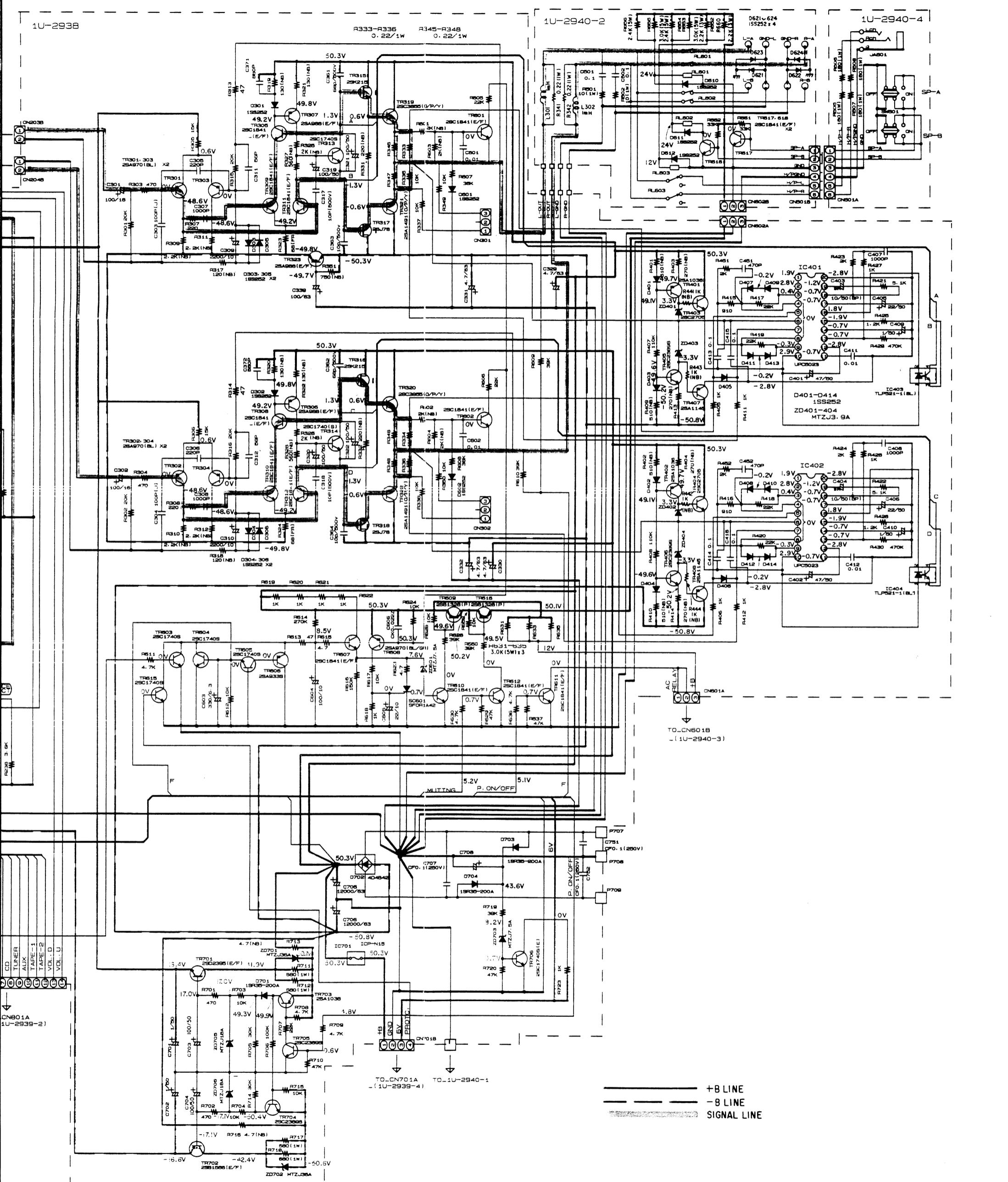
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11



## NOTES

**NOTES**  
ALL RESISTANCE VALUES IN OHM.  $k=1,000$  OHM.  $M=1,000,000$  OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD.  $P=MICRO\text{-}MICRO FARAD$   
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
CONDITION.

CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR  
NOTICE.

WARNING:

**WARNING:**  
Parts marked with this symbol  have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

**CAUTION:**

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 millamps. or if the resistance from chassis to either side of the power cord is less than 240 kohms. the unit is defective.

**WARNING:**  
**DANGER:**

**DO NOT** return the unit to the customer until the problem is located and corrected.

## **SCHEMATIC DIAGRAM (2/4) : PMA-925R**

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1

1

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A

B

C

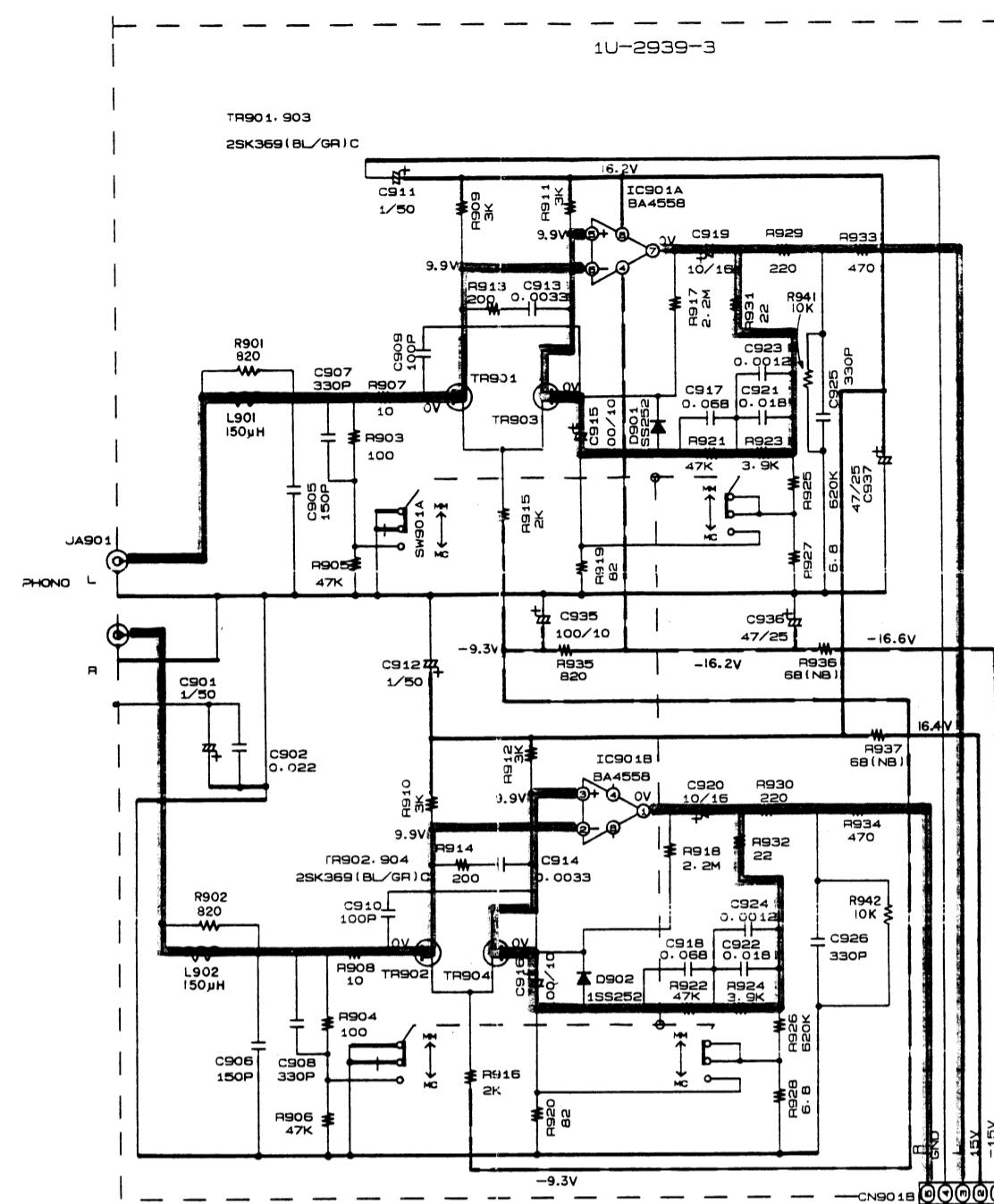
D

E

1

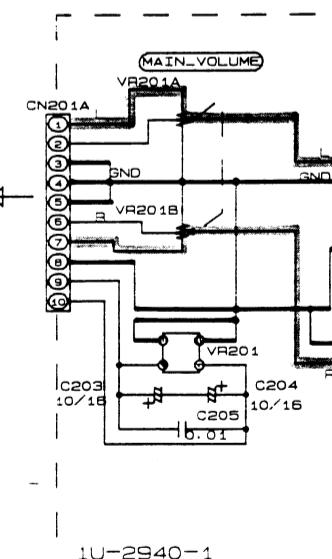
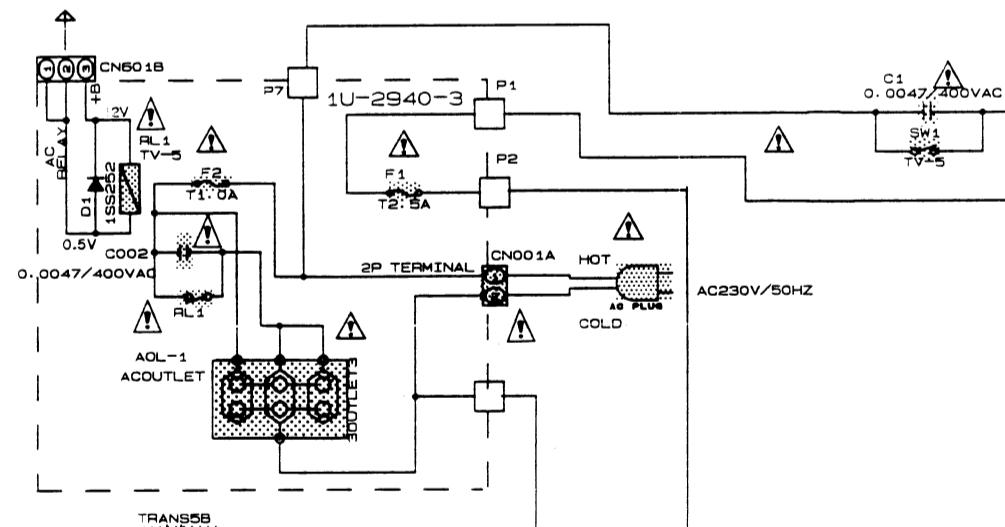
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H



TO-CN901A(1U-2938)

FO-CN601A (1U-2938)

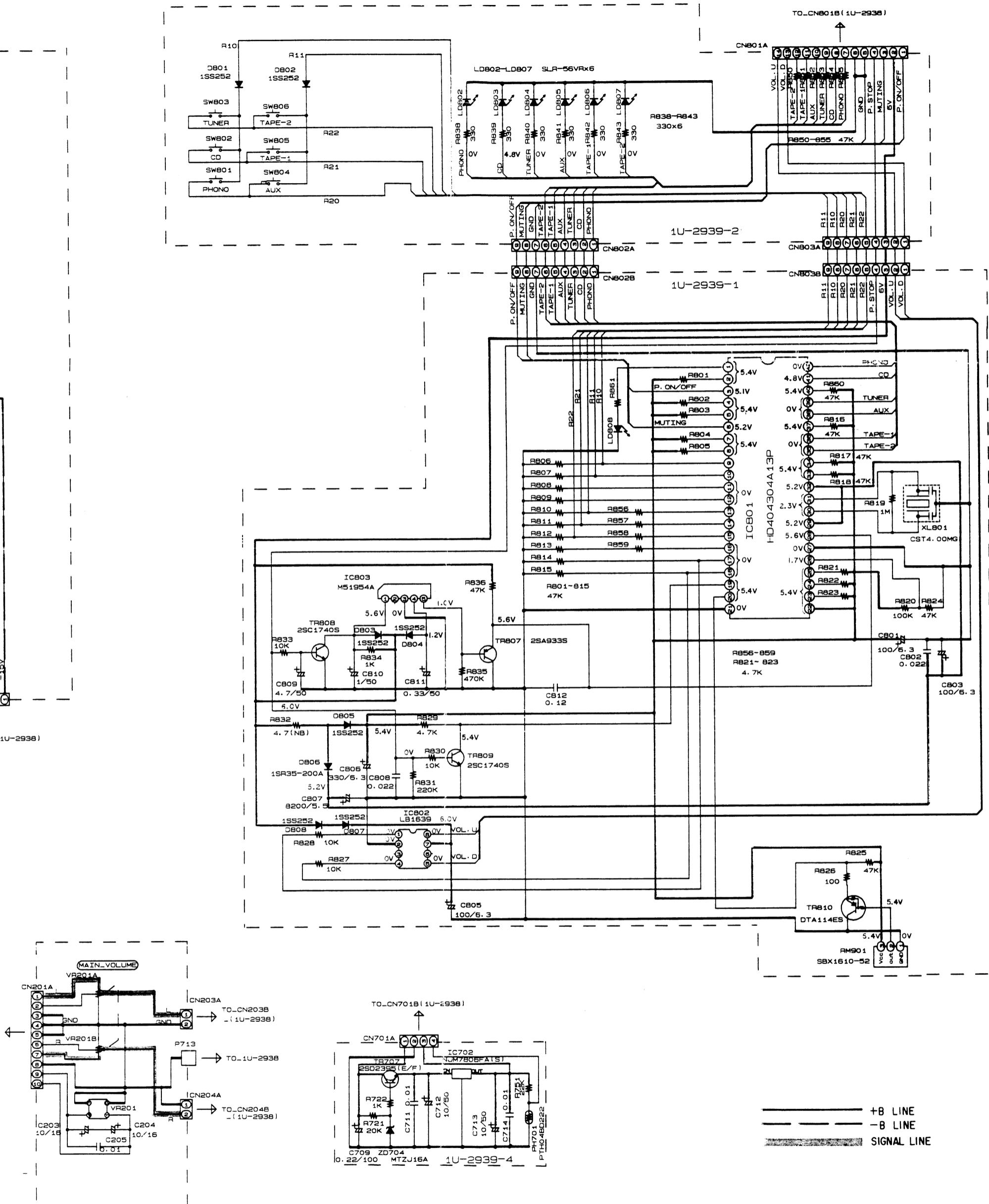


**WARNING:**  
Parts marked with this symbol  have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

**CAUTION:** Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliammps, or if the resistance from chassis to either side of the power cord is less than 240 kilohms, the unit is defective.

**WARNING:**  
DO NOT return the unit to the customer until the problem is located and corrected.

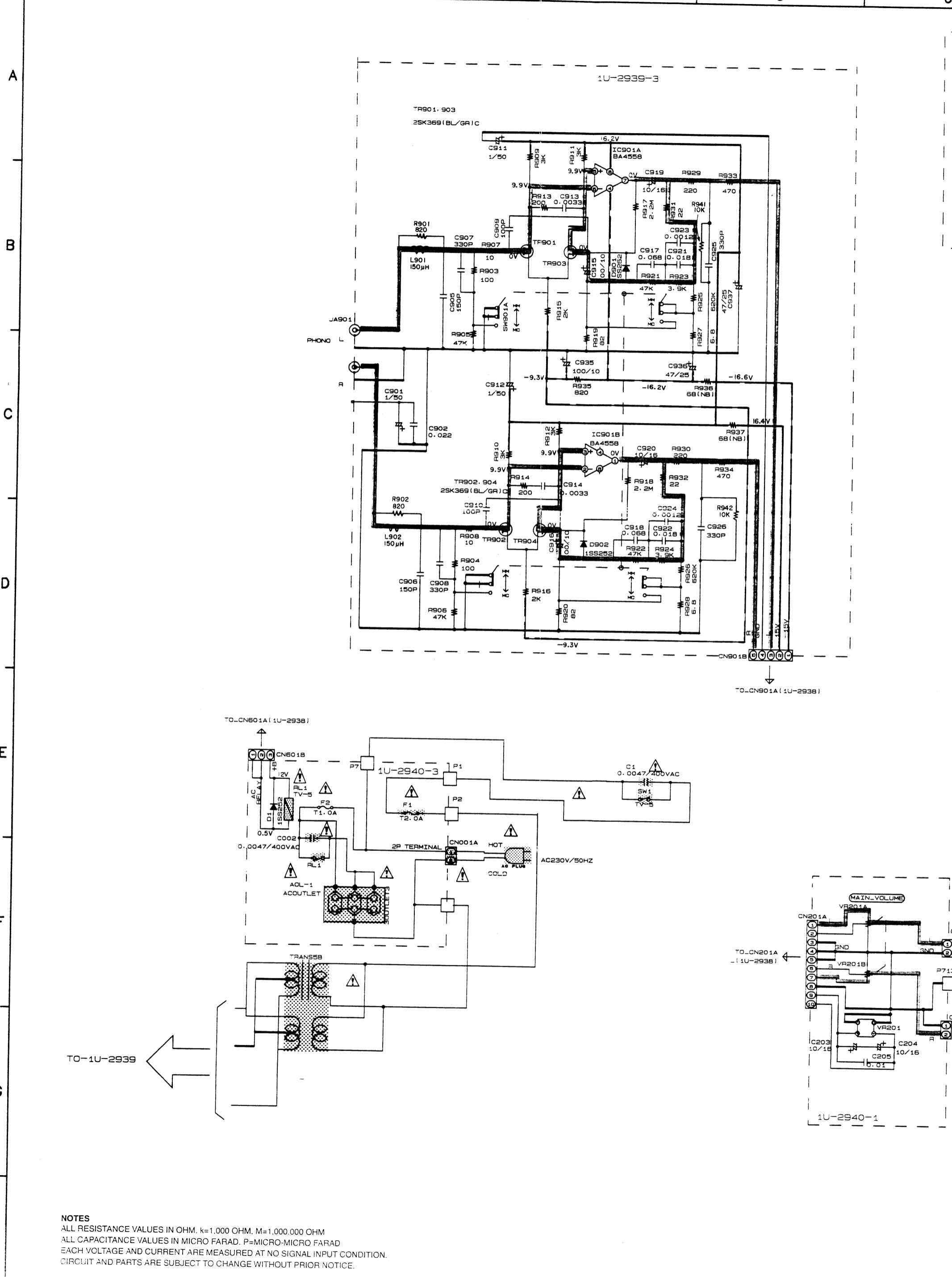
**NOTES**  
ALL RESISTANCE VALUES IN OHM.  $k=1.000$  OHM  
 $M=1,000,000$  OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD.  
 $P=\text{MICRO-MICRO FARAD}$   
EACH VOLTAGE AND CURRENT ARE MEASURED  
NO SIGNAL INPUT CONDITION.  
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE  
WITHOUT PRIOR NOTICE.

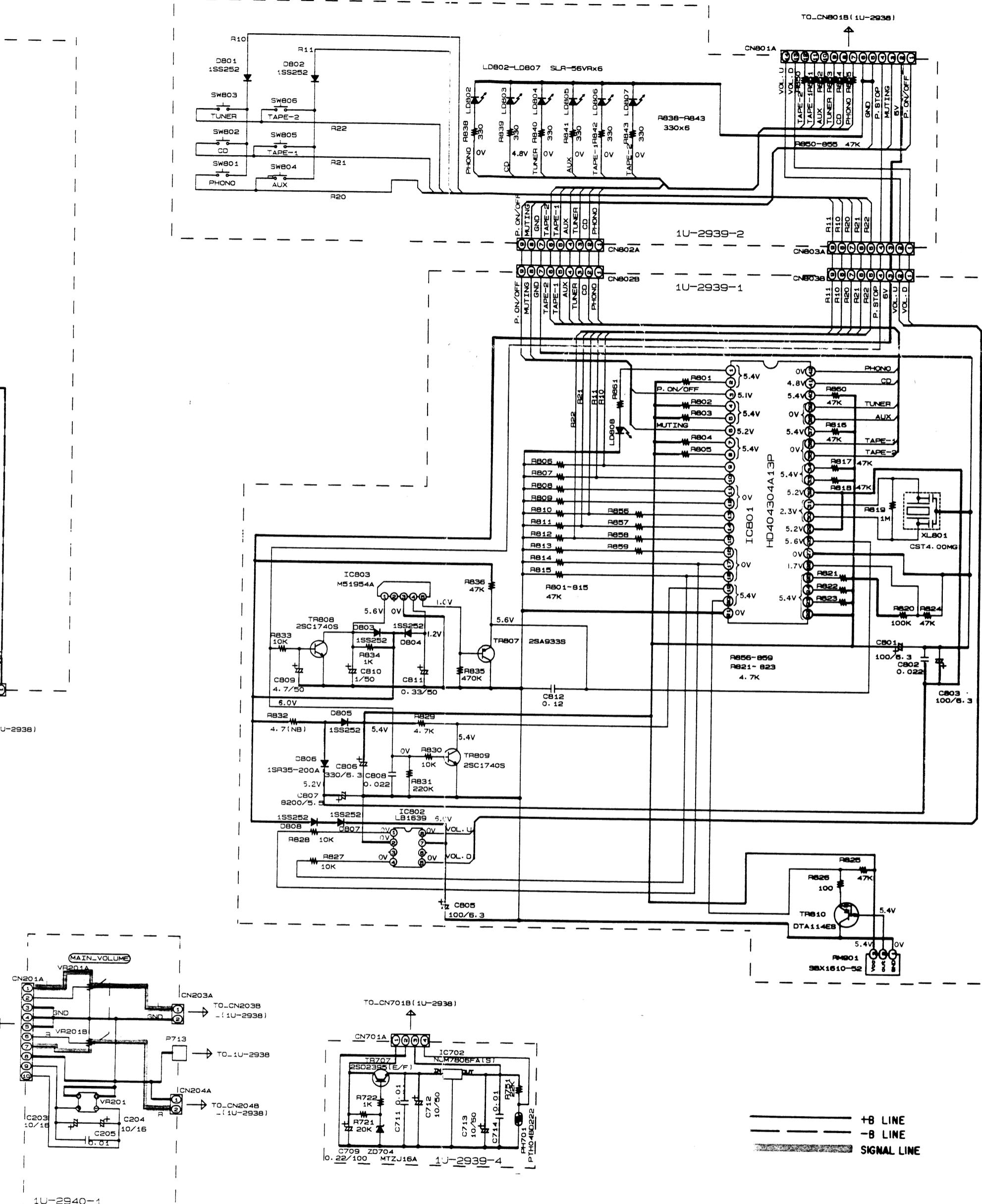


1U-2940-1

## **SCHEMATIC DIAGRAM (4/4) : PMA-725R**

1            2            3            4            5            6





# SCHEMATIC DIAGRAM (3/4) : PMA-725R

1

2

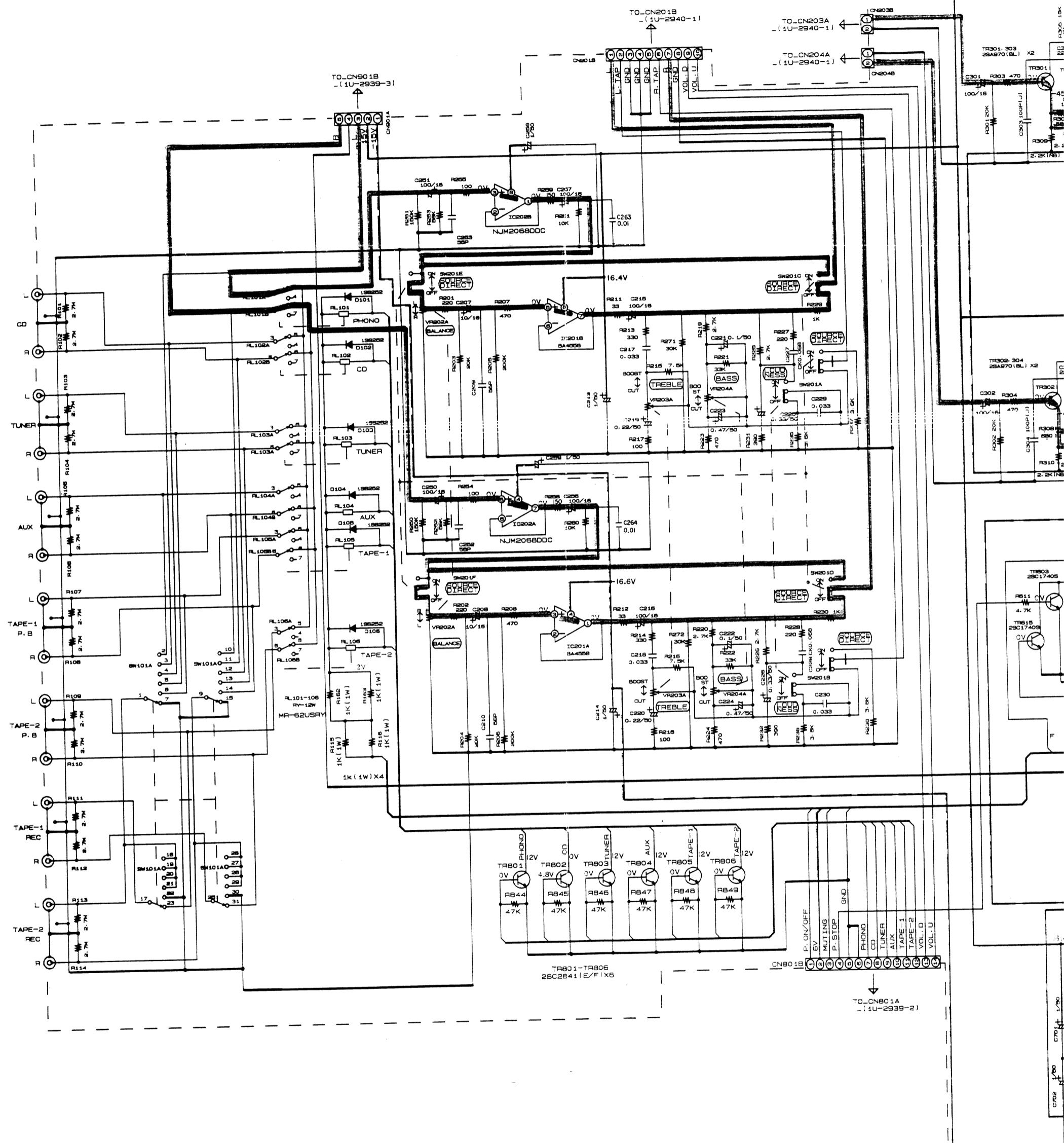
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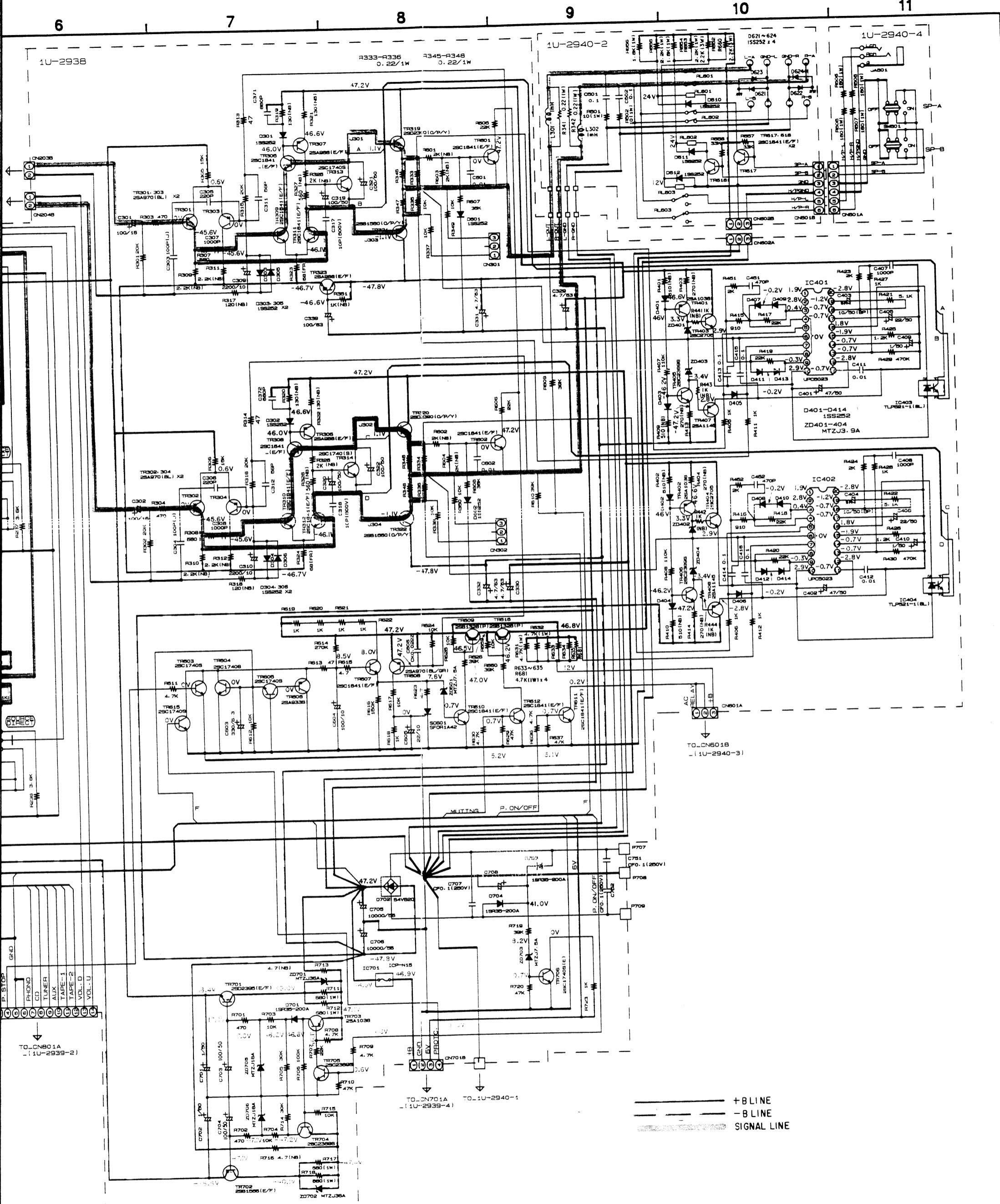
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1U-2938





**WARNING:**  
 Parts marked with this symbol have critical characteristics.  
 Use ONLY replacement parts recommended by the manufacturer.

**CAUTION:**  
 Before returning the unit to the customer, make sure you make either (1) a  
 leakage current check or (2) a line to chassis resistance check. If the leakage  
 current exceeds 0.5 millamps, or if the resistance from chassis to either side  
 of the power cord is less than 240 kilohms, the unit is defective.

**WARNING:**  
 DO NOT return the unit to the customer until the problem is located and  
 corrected.